

XXXIX.—*An Ornithological Journey in Fars, South-west Persia.* By HARRY F. WITHERBY.

ON February 20th, 1902, I set out for the Persian Gulf, accompanied by Mr. C. F. Camburn, who had been with me up the White Nile, as Taxidermist.

Text-fig. 16.



MAP OF FARS, SHEWING MR. WITHERBY'S ROUTE.

Bombay was reached on March 7th, and transhipping immediately to a British-Indian boat, we started, *via* Karachi and Maskat, for the Persian Gulf. Although stoppages were made at various small ports every day or so between

Karachi and Bushire, quarantine regulations forbade our landing. The sea-birds in the Gulf were disappointingly few, and as I had sent my guns by another steamer, we were able to obtain only one or two with a saloon-rifle—no other weapon being available. On March 18th we arrived at Bushire, and after spending some twenty-four hours on the quarantine island, were permitted to go to the town.

Before leaving England I had experienced great difficulty in getting my guns and ammunition shipped to the Persian Gulf, and it was only with the very kind help of Mr. B. T. Finch of the India Office, of the authorities at the Foreign Office, of His Excellency the Persian Minister, and of the authorities at the British Museum, that I eventually induced the shippers to run what they chose to consider a great risk. On my arrival at Bushire, however, there was no difficulty whatever about the matter, and the polite Belgian custom-house officials passed all my baggage through on the day of my arrival, an *ad valorem* duty of 15 per cent. being paid on the guns and cartridges.

At Bushire we were very hospitably entertained by Mr. and Mrs. W. F. Garden. Mr. Garden gave me the greatest possible assistance in getting together a caravan, and in many other matters helped me greatly, both by word and deed. Assistance such as this from a fellow-countryman abroad is extremely valuable, and travellers have very much to be thankful for when they meet one so capable and willing to give advice and help as Mr. Garden. March 21st is the "No Ruz," or the Persian New Year's day, which is kept as a festive holiday. We accordingly made use of this day and the next in collecting birds in the gardens and fields round Bushire, and I managed to secure representatives of twenty-five species; but vegetation, owing to a three years' drought at the coast, was naturally sparse and birds were few.

On March 25th we took a boat across the bay to Shif, and started on our journey to the interior. Our caravan consisted of our two selves and two Persian servants (a cook and a general servant and interpreter) mounted on mules,

seven baggage-mules, and two muleteers. The rate of mule-hire in Persia is variable. We paid at Bushire the fairly high price of 5 krans (55 krs. at the exchange of the day = £1) per mule per day, while later on at Shiraz we paid only 3½ krs. per day. The rate varies from many causes: corn and fodder may be scarce, a governor may have impressed the services of many thousand mules to take him and his retinue on a journey, or several boats with cargoes for up-country may have arrived together at port. When we got back to Bushire the rate of mule-hire had risen to 8 and 10 krs. per day, owing to the fact that thousands of loads of telegraph material for the new line which is being constructed across Persia were lying at the coast ready to be taken up-country.

I made a mistake in selecting a mule, having had very little experience of these animals before, and good horses it was practically impossible to obtain at Bushire. A mule has two annoying characteristics—he is restless when alone and he will not be led. To be happy he must be in the dust of the caravan along with other mules, and he must be driven. Consequently it took me a long time to train my mule to turn aside from his comrades and to stand still while I shot a bird. If the bird was dead I could generally pick it up without getting off the saddle, but, supposing it was only winged and no one was near to help, I might as well have tried to move a mountain as to lead the mule, and matters generally ended by my letting him clatter off to the caravan while I retrieved my bird; but this involved a great loss of time and energy, and I fared much better on the march when, later, I had an old “yabu,” or pack-horse. This curious animal had a habit of shying towards the edges of precipices, and he was a wonderful stumbler. He became nevertheless a cherished friend, because he soon learnt to stand stock still while I fired and would go where I liked. He was unfortunately stolen just when I had perfected his training.

Mules as baggage-animals were fairly successful. They performed wonderful feats in the way of climbing, and

although they were continually falling, did not seem to damage themselves very much. It was otherwise with the baggage. When the mule fell so did the baggage, but after a time we got quite hardened to seeing a box of skins or photographic plates gaily bumping down from rock to rock. Curiously enough (perhaps on account of our elaborate packing), nothing was ever seriously damaged, except the boxes themselves, and we luckily had a reserve of them. Donkeys would have been more serviceable than mules, perhaps, in some of the wooded country. The packs on the mules were continually torn off by overhanging trees, under which donkeys would generally have passed untouched. As to the muleteers, perhaps I had better say nothing. They are supposed to be a fine race of men in Persia. Physically they are, but otherwise, in my experience, they are not. I will not detail the little annoyances to which we were put by our muleteers. When every other inducement failed, one's end had to be gained by physical force.

Roughly our journey consisted of a march of some 800 miles in the country comprised within a triangle drawn with a line between Bushire and Shiraz as its base and the Kuh-i-Dinar as its apex.

From an ornithological point of view the journey was interesting and instructive. The number of species in any one locality was small, and birds, on the whole, were scarce, but the continually varying altitudes and the abrupt changes in the character of the country produced a striking variety in the bird-life, and this was so apparent that I decided, after a few days' travelling, to march frequently and cover a variety of tracts. A few birds (e. g. *Merops viridis*, *Caprimulgus ægyptius*) which we saw in the coast-region we did not see again, but most of the birds common near the coast were also common in the valleys up to an altitude of 5500 feet or so. And up to this altitude the changes in the bird-life seemed to me to be due, with few exceptions, to the varied character of the country rather than to climatal conditions. Above that altitude, however, a number of birds (e. g. *Argya huttoni*, *Burnesia gracilis lepida*, *Pycno-*

notus leucotis, *Sylvia nana*) were not to be found in similar country to that in which they were common at lower elevations; while in the same way, but more markedly, many birds (e.g. *Montifringilla alpicola*, *Accentor jerdoni*, *Melanocorypha bimaculata*, *Saxicola chrysopygia*, *Cinclus albicollis*, *Linota cannabina fringillirostris*, *Otocorys penicillata*) were confined to various altitudes above 6000 feet. The only bird found at all elevations and in every variety of country was the Chukar (*Caccabis saxatilis chukar*).

The route from Bushire to Shiraz is so well known that it needs little description from me. For two days the traveller passes along the hot and sandy coast-region. Then from the little village of Daliki he steers straight for the hills which fringe the plain, and, entering a gap in the steep rock, begins to climb the first of the celebrated passes, or kotal, as the Persians call them, which lie between the coast and Shiraz. These passes have been called rock-ladders, and with justice, for they are terribly rocky and steep, and the track through them is merely a natural one, worn smooth and slippery in places by the passage of innumerable mules, donkeys, horses, and camels. The life of most of the beasts of burden ends in one or other of these passes. The stones and rocks are often splashed with blood, and there is always a fresh carcase for the Vultures, Ravens, and Kites which haunt the kotal. It is extraordinary that nothing is done to improve the track. Even an Eastern people might be expected to spend a little on a route used continually by thousands of valuable animals.

Our first experience of a kotal was unhappy, for rain had added to the difficulties of the pass by making it exceedingly slippery, and our mules continually fell. Our nerves had many shocks, for we had not yet become accustomed to seeing our precious boxes bouncing like footballs from rock to rock. However, we were greatly consoled by the first sight of Rock-Nuthatches, with their wonderful whistling notes and diverting manners. After some five hours of climbing and slipping in the barren grey rocks of this pass, we emerged suddenly on to the edge of a fertile

basin, covered with corn and grass and dotted with palm-trees—green and luxuriant. It was the height of spring and the flowers were in perfection: every here and there deep crimson poppies and bright blue gentians, growing thickly together with other flowers of yellow, white, and mauve, formed patches of most brilliant and beautiful colour. The birds here were characteristic of all the lower and fertile valleys.

In the next pass we were again unfortunate in having a slippery track and in meeting hundreds of heavily-laden donkeys, the foremost of which struggled to pass our mules, and crashing their loads together, fell down one after the other, until the narrow way was blocked with struggling animals. But here again Rock-Nuthatches came to the rescue of my jaded nerves, and that charming Bush-Robin, *Erithacus gutturalis*, was seen and admired for the first time. At the top of the kotal we passed, as suddenly as usual, from barrenness to fertility, and found ourselves in the small valley of Kamarij, yellow with mustard-plants. In the surrounding hills I first saw the Lammergeier soaring and sweeping along in noble flight with outstretched wings. Red-legged Choughs, with their airy flight and cheerful ways, were also first met with here; and travelling on from this valley into a narrow defile, we saw Great Tits and Syrian Woodpeckers. Passing through the defile, we reached the large valley of Kazran, where fields of opium-poppies gleamed white amongst the corn, and the Nightingales and Goldfinches sang sweetly in the thickly-planted fruit-gardens.

But the greatest surprise of all was in store for us. Ascending from the Kazran Valley by the Maiden's Pass—the Kotal-i-Dokhter—we reached the top after a hot and dusty climb, and on turning a sharp bend in the track we saw before us a charming valley thickly studded with oak-trees. It was as though we had been transported in a flash back to England. The oaks were much the same as ours, and the bird-life at first glance was characteristic of our woods: Nuthatches, Great, Blue, and other Tits, Wood-Pigeons,

Spotted Woodpeckers, Jays, Wood-Larks, Blackbirds, and Kestrels were there, and their notes and songs struck with familiar accents on the ear.

The oak-wood stretches from this point for probably 200 or 300 miles through the mountains to the north-westward. It extends from about 3000 feet to 8000 feet. At the lower elevations the trees are usually larger and more thinly spread, while at the higher altitudes they are small and stunted, but generally grow thickly together. Although much smaller, as a rule, than an average English oak, some specimens of the Persian tree (*Quercus persica*) would be no disgrace to an English park. The wood is used for fuel and charcoal, and the acorns, which are long and tapering, when skinned and ground are used instead of flour for bread by many of the people of the country.

The oak-forest possesses a distinct fauna, a squirrel (*Sciurus fulvus* Blauf.) and several birds being entirely confined to its limits. The birds subspecifically distinct are *Sitta europæa persica* (vide infra), *Parus ceruleus persicus*, *Parus lugubris dubius*, found at all altitudes; while the forms of *Syrnium aluco* and *Gecinus viridis*, met with at higher altitudes, and of *Dendrocopos minor* may prove distinct. In addition *Dendrocopos medius sancti-johannis*, *Alda arborea*, and *Garrulus atricapillus*, so far as I am aware, are not found elsewhere in Persia.

After camping for a few days in these delightful woods, we marched on over the Pir-i-zan—the highest and perhaps the roughest pass between Bushire and Shiraz. In the valley at the top of the Maiden's Pass the oaks were in full leaf and the birds were busily feeding their young; but as we mounted higher and higher the oak-leaves grew smaller and smaller, until, at some fifteen hundred feet above the valley, they had scarcely broken from the bud. Another fifteen hundred feet and we had reached the top of the Pir-i-zan, or Old Woman's pass, and here, at 7000 feet, not a leaf was to be seen and the birds were only beginning to nest. In a space of three hours we had passed from a lively and joyous summer to a scarcely awakened winter. A

thousand feet below us, on the other side of the pass, lay the green basin of Dasht-i-arjan, surrounded by abrupt and rocky hills. To this we descended and found an entirely fresh avifauna, to say nothing of wild pig, in the reedy marsh which covers a large part of the plain.

After working the marsh for a couple of days, we formed a camp for a week at the base of the Pir-i-zan, where the oak-woods bordered on the plain. This was a very good place for birds, but I should undoubtedly have done better with my collection had it not been for a tribe of Iliyats (nomads), who swarmed down the hills with beasts innumerable for three long days and disturbed the whole of my collecting-ground. The Iliyats, or clansmen, of Persia are a very interesting people, and we afterwards visited many of their encampments and found much to admire in these simple sons of nature. But the first encounter with them was discouraging from an ornithological point of view, although one could not help respecting them—men, women, and children—for the way in which they rode their horses, mules, asses, camels, and cows, and for the way in which they drove their great flocks and herds, regardless of any path or track, straight down the steep hill-sides.

Hearing that Shiraz and the neighbouring country were in a very disturbed state, owing to the Prince Governor having been recalled to Tehran while his father was in Europe, we decided to avoid the risk of being delayed there by first making a tour in the oak-forest. We accordingly recrossed the Pir-i-zan and struck northwards up the Dasht-i-Bam. As we travelled on, camping for a day or two here and there, the altitude gradually decreased and the oaks grew thinner, until at Nurabad we reached some large and fertile plains covered with rich crops of high corn, from which the Francolin called continually with frog-like croaking notes. At Tol-i-safid we turned to the east, and striking the Shiraz-Behbahan route, soon came to a long and narrow valley thickly overgrown with oak. After passing Pul-i-mard the valley or gorge led rapidly upwards, and in two days after leaving the plains of Nurabad we found ourselves in a thick

oak-wood at an elevation of some 7500 feet. Here I wished to camp, but for want of food and water was unable to do so, and I could only blame myself for putting trust in the assertions of the muleteer, whose knowledge of this part of the country was supposed to be profound, but whose fertile imagination regarding streams and villages greatly outran the truth. However, we were able to return to this spot well equipped later, and meanwhile we passed on and soon reached the eastern limit of the oak-wood, which stopped abruptly and gave way to an undulating grassy country. Here, again, the bird-life suddenly changed and Nuthatches and Tits were replaced like magic by Larks and Buntings.

On reaching Shul we struck south-westwards across a great grassy plateau at an altitude of over 7000 feet. As we were climbing up this plateau the muleteers came running to me with a circumstantial tale about a band of 600 robbers who were lying in wait for us at the top. We had experienced many robber-scares, but had never yet seen one brigand in the flesh, so I told the muleteers that it was a good thing that there were 600 robbers, for now we should surely see them. At this they laughed heartily, and naively confessed that they had only sought to frighten the Sahib, as they wished to go straight to Shiraz. It was not of much use to explain to them that I was going back to Dasht-i-arjan for the sole purpose of getting the nest of a tiny bird (*Phylloscopus neglectus*), which was unfinished and eggless a fortnight before. The result, however, was worth the two days' detour.

Personally I was glad to leave Dasht-i-arjan for the second and last time, for it was a wonderful place for sudden and frequent thunderstorms, and after getting wet through I generally had fever—of a mild character, but always annoying. Two days' journey through a barren and dusty country brought us to Shiraz, where all again was green.

At Shiraz we received the greatest possible kindness from Mr. J. Wartenby, who entertained us most hospitably in the Bagh-i-Mallock, the charming compound of the Indo-

European Telegraph Department. Here, freed from the trials of the march and soothed by the liquid notes of the Nightingales, we were contented to rest and drink in the rich perfume of the roses, which were in all the glory of perfection. But after a few days, when we were anxious to be on the road again, we found the greatest difficulty in getting mules. Shiraz was without a governor, the whole district was much disturbed, and all the roads being considered very unsafe, the muleteers were in fear of their lives. Colonel and Mrs. C. A. Kemball, who had just arrived from the Residency at Bushire to take up their summer quarters at Shiraz, took much interest in my journey. Colonel Kemball very kindly suggested that I should wait for the arrival of the new governor, when he could obtain an escort for me as well as introductions to the various chiefs whom I might encounter. But I was more willing to run the risk of being attacked and robbed than to have the protection of an escort which would have hampered my movements and would have been a continual nuisance.

I was glad therefore when at last an arrangement was come to with a muleteer and we left Shiraz. We travelled rapidly to the north-west, and in three days reached the high wooded country which we had left with reluctance about three weeks before. We found everything changed. The oak was in full leaf, the resident birds had young in the nest, immigrants had arrived, and butterflies and many unpleasant insects swarmed. When our provisions were becoming exhausted after camping here, we made a short cut to the north towards a largish town by name Ardakun. On the way, however, while we were crossing a rapid stream (the Shir or Lion River) which flows for the most part through a narrow and precipitous gorge, I saw some Dippers, and as I had not met with any of these birds before, and did not know where they might be met with again, I camped for a day to search for them. From this camp we rode through barren and uninteresting country covered with coarse grass and thistles, until we reached the edge of a small and deep basin amongst the hills. Here lay the town of Ardakun shrouded in groves of fine walnut,

willow, and plane trees. Much to the gratification of the inhabitants we camped in the town for the night; but the people swarmed round our tent in hundreds, and their curiosity overcame their politeness to such an extent that we were obliged to obtain the services of two of the chief's strongest servants to keep them at a reasonable distance.

For the next five or six days we were travelling northwards at elevations of between seven and nine thousand feet. We had left the wooded country to the west, and now the mountains, which rose some two thousand feet above the track, were rocky and snow-covered at the top, while their slopes were thickly overgrown with coarse grass and large umbelliferous plants which had a heavy scent. In such a country there were few birds, but we were delighted to find new forms in the shape of Horned Larks, Red-tailed Wheat-eats, and brightly-coloured Linnets. On May 24th we reached the eastern slopes of the Kuh-i-Dinar, the high mountain which I had been anxious to visit. The Pa Dinar (or foot of Dinar) region consisted of undulating grassy country rising gently to the base of the great mountain-ridge, which towered high and dazzling in its whiteness to an altitude of nearly 14,000 feet.

A large tribe of the Iliyats, called Farsi Medun, owners of 2000 tents, had their summer-quarters in this excellent grazing country. Their chief, Abdullah—a fine patriarchal old man—received us most hospitably, as indeed the Ilyat leaders always did, and since these people are implicitly obedient to their chiefs we were universally well treated by them. Although quite uneducated, the Iliyats are in many cases highly intelligent people. They are bold and outspoken and have free and easy manners, but are possessed of a natural and graceful politeness. At this place I had some most enjoyable sport with Abdullah's son, by name Masti. The tribe was celebrated for its fine horses, and they mounted me on a beautiful mare. We set out with a large retinue of mounted men and scoured the hills for "Chabk," as the Chukar Partridge is called. When the flankers signalled that they had marked down birds, Masti and I galloped up and down the

steep, rock-strewn hill-sides to the spot, and, sometimes dismounting, sometimes not, took our shots as the birds rose. To me it was quite a novel method of Partridge-shooting and the most exciting I have ever tried. The faultless way in which the horses galloped over stones and boulders was, perhaps, the most surprising part of the entertainment. Amongst a race of fine riders and good shots, Masti of the Farsi Medun Iliyats was noted. With a rifle he could hit five out of six stones thrown into the air. With a shotgun he was equally clever, and I have seen him canter up to a Calandra Lark and shoot it as he passed when it rose from the ground.

Leaving these Ilyat friends with some regret we rode straight for the Kuh-i-Dinar. At first no way over the mountain was apparent, but as we got nearer to its base a gap opened out, and we passed into a track which led over a narrow neck connecting two of the highest peaks of the range. We had now left the grass-lands behind us and were clambering up a rock-strewn path hemmed in on either side by frowning precipices. Crossing many a steep slope of shingle we reached at about 9000 feet the first patch of snow, and then slope after slope of deep snow was encountered. Although it was the middle of the day, and the sun was broiling hot, these patches of snow were hard and our mules passed over them without difficulty. The top of the pass—the Gardan-i-Bijan, as it is called—my aneroid measured as 10,150 feet. To the east we could see the rolling grassy country of the Iliyats, while in front of us, to the west, the panorama was strikingly different. Here we looked across ridge after ridge of hard grey rock separated by narrow valleys, and as far as the eye could see the oak tree flourished and clothed both hill and gorge. Of birds on this pass there were but few. Chukar Partridges were present as everywhere, and at the very summit of the “Gardan” were a few small bushes and a stunted tree inhabited by a pair of homely Blackbirds and a couple of Tom-Tits. But the birds which interested me most were the Snow-Finches, which flitted like Snow-Buntings about the slopes of snow, and a pair of Accentors, which I saw on returning to the top of the pass

the next day. We descended the western side to about 8300 feet, and then camped some 1000 feet above the little village of Sisakht.

The people about Dinar had seen "Faranghis" before. About 25 years ago a "Faranghi" had come and climbed to the top of Dinar (the roof of the world they called it). I asked why he had done so, and they all answered, "To find a certain herb which had the power of turning everything into gold." When asked why they did not search for this plant, they answered, "The Faranghi alone knew where it grew and how to use it. Have you also come for this plant?" This traveller must have been Captain (now Sir Edward) Durand, while Colonel M. S. Bell, V.C., has also crossed the Gardan-i-Bijan.

From our camp on the west side of the Kuh-i-Dinar we descended to the oak-woods, and travelled for some days over steep ridges and down deep gorges until we came to the Khersun River, where the track was somewhat easier. A day's march further on we came to a fine valley where the oak trees grew more luxuriantly than usual. Here, near Chinar, we had some varied experiences. We were camped amongst the trees in a good place for birds, and I was particularly anxious to stay some days in order to get specimens especially of Tawny Owls and Green Woodpeckers, of which there were a few in the vicinity. But everything seemed against us. On the second night we were visited by robbers, who got clear away, owing to its being moonless and, consequently, very dark in the wood where we were camped. The next morning I sent Camburn to complain to the chief at Chinar, some ten miles distant. But when he arrived within five hundred yards of the village he was fired at from a fort, and such good practice was made that he and his escort were forced to retire. The next night we proposed to give the robbers a warm reception. I placed sentries, and to give courage to our men armed our chief servant, Hassan, with a 12-bore, telling him to be sure to fire into the air and not to aim at anyone. In the middle of the night we were awakened by great shouting, and on jumping out of the tent found that one of the sentries had suddenly arisen to see the most

valuable mule being taken off by a robber. He had promptly picked up a large stone and, aiming at the robber, had hit the mule instead. But this had had the desired effect, for the mule on being hit had reared up and got loose, though the robber had made off before we could get out of the tent. Then Hassan came to me and said, "This gun no good. I had him pointed at robber and he no go off." It was remarkable that both cartridges had missed fire and that they alone did so only out of five or six hundred which were used in all. Besides these little annoyances, almost every hour of the day and night provided a different species of fly with a different way of biting, and my hands became so swollen that I could scarcely hold a gun, while one of my eyes was completely closed. But what eventually drove us away from this camp was want of food. It appeared that the chief of the district had feared that he would not get reappointed by the new governor of Shiraz. Accordingly he had sent all the people of his village into the hills, and having placed some thirty armed men in his castle, had told them to fire at anyone who came near in case they should be the party of a new chief. The country being thus deserted we could get no food, and when our pet kid, which had cleverly balanced himself on the top of a pack mule for many a day's march, had been reluctantly killed and eaten, we had to leave.

We steered southwards, and as we passed within sight of the Chinar fort the chief's "tufangchis" (literally chiefs of the gun), acting strictly according to their master's orders, fired at our peaceful caravan until we turned a corner and were hidden from them. Although the range was fully half a mile, their shooting was excellent, the bullets striking within a few yards of us, and two actually passing under the bellies of the mules. I may here remark that the only bad treatment we received in Persia was in this district. On my reporting the circumstances to Colonel Kemball he made complaints to the Governor of Shiraz, but, so far as I know, the chief of Chinar has not been made to suffer. A cannon which was sent to reduce his fort returned to Shiraz without accomplishing anything.

Between Chinar and Bija (see map, p. 501) we had some

very difficult travelling through an unknown country intersected by narrow gorges. At one place near Bija, in two long days of hard work we advanced only some ten miles. From Chinar to a point near Bija, the altitude ranged from six to nine thousand feet above sea-level. After Bija it began gradually to decrease, and the rocky ridges and gorges gave way to gentler slopes, until at a little beyond Basht the oak-woods ceased and we reached some plains at rather over 3000 feet.

Here, as will be seen from the map, we doubled on our former tracks. It was the middle of June, the corn was cut and the country was parched, and for the most part burning, the smoke being so dense that the hills were hidden from view. In the mountains a cool breeze was generally blowing, so that although the sun was powerful the temperature in the shade rarely exceeded 90° Fahr., while at night it averaged 40° to 50°, and at the end of April sank as low as 21°. On reaching the plains it will be understood that we felt the heat intensely, and therefore travelled by night straight to the coast. By means of forced marches, which involved some exciting experiences with the muleteers, we managed to reach Bushire in time to catch the steamer which left for Bombay on June 23rd. Our homeward voyage was none too pleasant, the damp heat of the Persian Gulf being very trying, while in the Indian Ocean we were treated to some heavy monsoon weather.

I must not omit to state that throughout our journey Mr. Camburn proved a most admirable assistant and companion. The skins which he made, often under most adverse conditions, have justly met with universal admiration.

In addition to friends I have already mentioned, I have to thank Dr. W. T. Blanford, F.R.S., and Mr. W. R. Ogilvie-Grant for having recommended S.W. Persia to me as an ornithological hunting-ground; Mr. B. T. Finch, C.I.E., Mr. C. A. Buchanan, and Major P. Molesworth Sykes, C.M.G., for much help and advice before I started from England; Dr. and Mrs. J. Scott, of Shiraz, and various officials of the Indo-European Telegraph Department for their kindness in Persia.

The birds of Persia were dealt with in a very thorough and careful manner by Dr. W. T. Blanford in the second volume of 'Eastern Persia' (1876). The total number of species enumerated by Dr. Blanford was 384. Of these some 16 were either doubtfully distinct or of very uncertain occurrence in Persia. In 'The Ibis' for 1886 and 1891, Dr. Sharpe described collections made by Mr. W. D. Cumming at Fao, at the head of the Persian Gulf, which, although not actually in Persian territory, may be reckoned such so far as the birds go. In the same Journal for 1886 (p. 493) Dr. Sharpe also described a collection made by Mr. A. J. V. Palmer at Bushire. These collections resulted in the addition of some 20 species to the avifauna of Persia. Of the total obtained from these sources I make 158 species, and am able to add only the following to the list of Persian birds, viz.:—*Lullula arborea*, *Emberiza schœniclus*, *Accentor jerdoni*, *Dendrocopus minor*, and *Syrnium aluco*. The avifauna of Persia may thus be reckoned roughly at 400 species. This estimate, however, does not take into account the work of Mr. Zarudny, who has lately made extensive collections in Eastern Persia, but whose results have been communicated in Russian, a language with which I am not familiar.

Dr. Blanford divided Persia into five zoological regions, making a distinct region for "the wooded slopes of the Zagros, including the oak-forest near Shiraz." In this, so far as my observations go, I think that he was perfectly correct, for the avifauna of this region seems distinct from that of the Caspian provinces; but how much further north than I travelled this peculiar avifauna extends I am unable to say. As already explained, the characteristic birds of these oak-woods are Palearctic species, while those of the plains near the coast are a strange mixture of Palearctic and Indian with one or two North-east African forms. It is also worthy of remark that at the highest altitude we reached, Palearctic, Indian, and African birds were seen side by side (viz. *Turdus merula*, *Accentor jerdoni*, *Erithacus gutturalis*).

There are, I suppose, very few distinct species of Palearctic birds yet to be described, but the work of distinguishing the

various races of known species and tracing their geographical distribution is of equal interest and importance. Work of this character, will, I believe, prove of great assistance in determining the exact migrations of birds, and it is at all events leading us to a clearer idea of the evolution of species. Could the causes which produce these races be more thoroughly investigated, results of much importance might be obtained. My collection of birds from Persia is of considerable interest, for it contains many "intermediate" and more or less local forms. The most striking feature in the collection is the pale coloration of so many of the birds. This feature, which was noticed by Dr. Blanford, is equally apparent in birds inhabiting the woods and in those belonging to the open country. Indeed, of the species I have already enumerated as peculiar to the oak-forests, all are distinguished from the nearly allied forms by their pale coloration. The birds are in most cases pale, on the under as well as on the upper side, and they tend to become of an ashy hue and not of a sandy colour like desert forms. This can only be due, I think, to some physical cause, for I cannot see that a pale coloration is of more advantage to these birds than to those inhabiting, for instance, Southern Europe. Mr. Oldfield Thomas informs me that the few mammals (e. g. *Sciurus fulvus*, *Mus sylvaticus witherbyi*) which I brought back are also remarkable for their pale coloration, and I cannot but think that there is some extraordinary bleaching-quality in the atmosphere of this region.

In the preparation of the list of birds which follows I am greatly indebted for help and advice to Dr. R. Bowdler Sharpe and to Mr. Ernst Hartert.

No specimens were obtained of the species marked with an asterisk.

1. *PYRRHOCORAX GRACULUS (Linn.); Blanf. Eastern Persia, vol. ii. (1876) p. 264.

The Red-legged Chough was seen hopping about on the grass in many of the valleys and flying in airy and cheerful fashion about most of the rocky hills at altitudes of from

3000 ft. to 10,000 ft. In some places the birds were very numerous, and it was not an uncommon sight to see a flock of a hundred or more. They always proved too cunning for me, but I made a point of examining them with my binoculars, and all those which I saw had red bills.

2. *CORVUS CORAX Linn.; Blanf. t. c. p. 261.

Two or three Ravens were to be seen in most places, and in a grassy valley near Shul (about 6800 ft.) we saw forty or fifty feeding on the grass and flying about like a flock of Rooks. They were always exceedingly wild, and I failed to secure a specimen.

3. CORVUS CORNIX SHARPII Oates.

Corvus cornix Linn.; Blanf. t. c. p. 262.

258. ♂ ad. Near Dasht-i-arjan, April 27th.

This pale form of the Hooded Crow was common wherever there were trees. *C. capellanus* Sclat., with its large bill and tarsi and whitish coloration, is very distinct from any other Hooded Crow, and I think that it will prove to be a true species and not merely a form of *C. cornix*. I believe that the two birds are to be found breeding in the same locality, for I saw, inland as well as on the coast, Crows which even at a distance appeared far paler than *C. c. sharpii*. Unfortunately I was never able to obtain one of these white-looking birds.

Hooded Crows had fresh eggs near Kalah Mushir (6700 ft.) on April 11th, and they were incubating near Pul-i-mard (4000 ft.) on April 24th.

4. GARRULUS ATRICAPILLUS Geoffr.; Blanf. t. c. p. 265.

409, 421. Ad.; 422-424. Juv.

The mature birds are slightly paler on the mantle than typical specimens of *G. atricapillus* from Syria and Palestine, but I think that this may be due to the abraded state of the plumage of my specimens. *G. a. krynicki* from the Caucasus and Asia Minor, is, of course, a much darker form.

This Black-headed Jay was fairly evenly distributed through the oak-woods, but it was nowhere common. It was shy and even more difficult to shoot than our Jay. The note appeared

to me to be just the same as that of *G. glandarius*. An old bird was feeding its fledged young near Sadat (7300 ft.) on June 6th.

5. *ORIOLOUS GALBULA Linn.; Blanf. t. c. p. 219; Sharpe, Ibis, 1886, pp. 477 & 494.

The Golden Oriole is a summer resident on the high ground in Persia.

I did not notice it until May 17th, but after that date I often heard its mellow pipe or saw it dip through the trees in many parts of the oak-woods.

6. PICA RUSTICA Scop.; Blanf. t. c. p. 264.

257. ♂ ad. April 7th, near Dasht-i-arjan (6700 ft.).

This example has the white on the quills nearly extending to the tips, while the throat-feathers have concealed white bars, and the wing is rather large; but all these characters are often present in European specimens, and I cannot agree that *P. r. bactriana* Bp. is a good form.

Like the Starling and Spotted Cuckoo, the Magpie was only common in one locality between Dasht-i-arjan and Shiraz, where it was breeding in considerable numbers in a dry river-bed thickly overgrown with thorn-trees and willows. An occasional pair was seen here and there in most parts of the oak-woods.

7. STURNUS VULGARIS CAUCASICUS LORENZ.

Sturnus vulgaris Linn.; Blanf. t. c. p. 266; Sharpe, Ibis, 1891, p. 105.

183, 184. Ad.

These specimens have purple flanks and wing-coverts, and agree with birds from the Caucasus, but the variations in the colour of the Starling are so intricate that one cannot place much reliance upon the constancy of many of the forms described.

Starlings were by no means common in the part of Persia visited, except in one locality near Shiraz, where they were breeding in considerable numbers in holes in willow trees. A few pairs were to be seen here and there in the oak-woods. There were young in the nest at 6000 ft. on April 29th.

8. *EMBERIZA HORTULANA* Linn.; Blanf. t. c. p. 259; Sharpe, Ibis, 1886, pp. 487, 498.

206, 207, 217, 268. Ad.

These specimens are not quite so rufous on the back as European birds and are a little greyer on the head, but the difference is very slight.

I did not notice the Ortolan until April 20th, when I found it fairly plentiful near Naksh-i-Bahram (3300 ft.). It was also common about Shiraz (over 5000 ft.) and in the Berm Firuz-district (over 9000 ft.).

9. *EMBERIZA PALUSTRIS* Sav.

Emberiza intermedia Mich.; Blanf. t. c. p. 258.

123. ♂ ad.

10. *EMBERIZA SCHENICLUS* Linn.

124. ♀ ad.

If these two birds be of distinct species, it was curious that the only examples of each seen were of opposite sexes, and were behaving together exactly as though they were a pair. They were shot on the banks of a reedy river at Dasht-i-arjan (6700 ft.) on April 7th.

11. *EMBERIZA MELANOCEPHALA* Scop.; Sharpe, Ibis, 1886, p. 498.

Euspiza melanocephala (Scop.); Blanf. t. c. p. 260.

45, 194, 198, 210, 219, 255, 362, 365, 427, 428, 446, 447. Ad.; 426, 429. Juv.

Except actually in the oak-woods, the Black-headed Bunting was the most evenly distributed and common bird in the country. It was found at all elevations, and was the bird most often used by the Iliyats as a mark whereon to try a gun.

12. *EMBERIZA MILIARIA* Linn.; Blanf. t. c. p. 257; Sharpe, Ibis, 1886, p. 497.

209, 238, 287, 349, 358. Ad.

Specimens from Asia Minor and Persia are generally whiter on the breast than is usual with European birds.

The Corn-Bunting was fairly common in the cultivated districts from the coast to an altitude of over 9000 ft.

A nest at Shiraz contained young on May 2nd.

13. *EMBERIZA CIA STRACHEYI* (Moore).

Emberiza cia Linn.; Blanf. t. c. p. 257.

356. ♂ ad.; 357. ♀ ad. May 25th, Pa Dinar (7000 ft.).

442. ♂ juv. June 11th, near Basht (4100 ft.).

These specimens are pale on the upper parts and the facial markings are white, while the edgings to the median wing-coverts are buff. *E. stracheyi* does not seem to me a very distinct form, because European specimens are often as pale coloured as the Eastern, and although they generally have white edgings to the wing-coverts, they sometimes have not. On the other hand Eastern birds seem never to have these white edgings.

The Meadow-Bunting was only seen at a few places, not below 4000 ft. It appeared to be a rare bird.

14. *LINOTA CANNABINA FRINGILLIROSTRIS* (Bp. & Schleg.).

Linaria cannabina (Linn.); Blanf. t. c. p. 249.

344. ♂; 345. ♀ ad. May 22nd, Berm Firuz (9300 ft.).

My specimens belong to this form of the Linnet, but the grey edgings to the primary-coverts are nearly worn off by abrasion.

I saw only a few pairs of Linnets at the end of May in the treeless country to the south-east of Kuh-i-Dinar at high elevations (8000 ft. to 9500 ft.).

15. *CARDUELIS ELEGANS MAJOR* Tacz.

Carduelis elegans Steph.; Blanf. t. c. p. 249.

70, 197, 235. Ad.

These specimens are very pale on the upper parts and are large in size, and in these and other respects may be compared with the Siberian form of the Goldfinch.

Goldfinches were numerous in gardens and where willow and other trees grew densely. They were also met with sparingly through the oak-woods up to an elevation of 7000 ft. They were living their nests at Nudan (3200 ft.)

on April 17th, and a nest in a garden at Shiraz (5200 ft.) contained the first egg on May 12th.

16. *PETRONIA FLAVICOLLIS* (Franklin).

Gymnoris flavicollis (Franklin); Blanf. t. c. p. 256.

Passer flavicollis (Franklin); Sharpe, *Ibis*, 1886, pp. 486 & 497.

79, 436, 437, 438, 439, 440. Ad.

It may be remarked that some females have no chestnut-brown on the wing-coverts.

One specimen of the Yellow-throated Sparrow was obtained in the oak-woods near Kaluni (4400 ft.) on April 3rd, but the bird was not met with again until June 11th, when I found it common in a small willow-jungle near Basht (4100 ft.). At the latter place I heard one singing a long and laboured song, which consisted of an endless succession of warbling chirps.

17. *PETRONIA STULTA* (Scop.).

Petronia stulta (Scop.); Blanf. t. c. p. 255.

366, 373. Ad.; 333. Juv.

This Rock-Sparrow was met with only in two localities, both of them at considerable altitudes and of a rocky and barren nature, viz., Shir River, near Ardakun (about 7000 ft.), and on the Gardan-i-Bijan, Kuh-i-Dinar (about 8000 ft.).

18. *PETRONIA BRACHYDACTYLA* Bp.; Blanf. t. c. p. 255.

191, 213, 218, 220. Ad.

This Rock-Sparrow was only met with in more or less open country, in which mimosa and other bushes grew. The bird sits on the tops of the bushes and continually utters an extraordinary and monotonous note, sounding like the word "wheeze" very much prolonged. The specimens which I procured were all males, and I think that the females must have been incubating, both near Naksh-i-Bahram (3300 ft.) on April 20th and near Shul (6800 ft.) on April 26th.

19. PASSER SALICARIUS (Vicill.).

Passer salicarius (Vicill.); Blanf. t. c. p. 255.

62, 192, 459. Ad.

Specimens from Asia Minor and Persia have the pale markings on the mantle, the sides of the throat, and the abdomen whiter than is usual with European birds. Herr von Tschusi has divided this species into several subspecies (Orn. Monatsb. 1902, p. 96), but I have not been able to distinguish the differences between his *P. s. transcaspicus* and *P. s. palestinae*.

Dr. Blanford considered the Spanish Sparrow scarce in Persia, but I found it in very large numbers in certain localities.

About 20 pairs were building nests in some acacia-trees at Kamarij (2700 ft.) on March 30th. Near Nudan (3200 ft.) we found enormous colonies of these birds nesting in small trees and bushes. There were often a dozen of their large domed nests, made of green grass, in one bush, and the chattering of the colony could be heard at a distance of quite half a mile. The ground round about their nests was very foul and the stench was strong. They were beginning to lay on April 17th, and I took six fresh eggs from a nest on that date.

On June 14th, near Nurabad (about 4000 ft.), twenty or thirty miles from the colony just mentioned, we saw thousands of these birds, both young and old, feeding in the corn-stubbles, while the thorn-bushes round about were weighed down with clusters of their deserted nests.

20. PASSER DOMESTICUS INDICUS.

Passer indicus Jard. & Selby; Blanf. t. c. p. 254.

27, 63, 71, 72, 264, 298. Ad.

This pale Eastern form of the House-Sparrow was the only one seen. It was common in the larger towns and in many of the villages up to an altitude of nearly 8000 ft., but, owing to the scarcity of houses, it could not be called a common bird in the part of Persia visited.

21. *MONTIFRINGILLA ALPICOLA* (Pall.); Blanf. t. c. p. 248.

367. ♀; 272. ♂; 378. ♂ ad. May 28th & 29th, Gardani-Bijan, Kuh-i-Dinar (9000 ft. to 10,000 ft.).

My birds are rather pale on the upper parts. In two of the specimens (♂ and ♀) the bases of both mandibles are of a deep yellow and the tips black, while in the third specimen (♂) the whole bill is black. The bill of this species is usually yellow in winter, like that of *M. nivalis*, but Dr. Blanford's two specimens obtained in the north of Persia in February had black bills.

This Snow-Finch was seen only on May 27th or 28th on the pass over the Dinar range. On both sides of this pass near the top, and not at a lower altitude than 9000 ft., there were a few pairs hopping about on the patches of snow or upon the rocks near the snow. On the wing the birds appear to be white, but, when stationary, the pale brown back exactly matches the rocks. They were shy and difficult to get, because by flitting up the mountain-side they could reach a place in a moment which would take their pursuer perhaps half an hour's climb to gain. They seemed to examine the snow industriously for food, but what they obtained I could not ascertain. A female had a bare incubating spot on the breast and the testes of one of the males were much enlarged.

22. *RHODOSPIZA OBSOLETA* (Licht.).

Erythrospiza obsoleta Licht.; Blanf. t. c. p. 252.

249. ♂ ad. April 26th, Plateau near Dasht-i-arjan (7000 ft.).

A pair of these very beautiful Finches was found amongst some willow trees on a plateau (7000 ft.) north-east of Dasht-i-arjan. We did not see the bird elsewhere.

23. *AMMOMANES DESERTI* Licht.; Blanf. t. c. p. 245.

53, 460, 463. Ad.; 449. Juv.

These specimens agree with typical birds from Egypt.

Desert-Larks were seen only at comparatively low altitudes (below 3000 ft.). They were fairly common near the coast, and I found a nest with four fresh eggs in a niche in a rock on a hill at Kamarij (2700 ft.) on March 30th.

24. GALERITA CRISTATA MAGNA Hume.

Galerita cristata (Linn.); Blanf. t. c. p. 240; Sharpe, Ibis, 1886, p. 467, 1891, p. 106.

3, 29, 30, 36, 67, 68, 69, 267, 283. Ad.; 425. Juv.

These specimens are of a pale and somewhat ashy colouring on the upper parts, and in this respect are like *G. c. magna*, but they average rather small for that race.

The Crested Lark was the only common and universally distributed Lark in the country. It was to be found almost everywhere from the coast to an altitude of over 7000 ft. It was commonest, however, at comparatively low altitudes and in cultivated districts, although it was by no means rare in many very barren places. I found fresh eggs at Bushire on March 20th, and again at Shiraz (5200 ft.) on May 3rd; while young were fully grown at the beginning of June at 3000 ft.

25. *? CETHILAUDA ALAUDIPES (Desf.).

Certhilauda desertorum Stanley; Blanf. t. c. p. 240.

Some large black-and-white-winged Larks, which I take to be of this species, were running about in the plain near Shif in the early morning of June 20th. We had been travelling very hard for two days and two nights, and perhaps that was the reason why I expended my last six cartridges in vain on these birds.

26. CALANDRELLA BRACHYDACTYLA Leisler; Blanf. t. c. p. 242; Sharpe, Ibis, 1891, p. 106.

239, 240, 241, 246, 301. Ad.

My specimens have a rufous tinge on the back and lower breast, but this colouring is characteristic of many European examples, and the birds agree in every other particular with typical specimens.

The Short-toed Lark seemed to be greatly restricted in its distribution, and we saw it only in the grassy uncultivated plateaux about Shul at elevations of between 6500 and 7500 ft. At the end of April the birds were in small parties of eight or ten, and even in the middle of May they did not appear to be breeding. Dr. Blanford considered this one of the

most widely distributed birds in Persia. It may be so on the plains in Central and Eastern Persia, but, I suppose, because of the character of the country, it was one of the birds with the most restricted range in the district in which I travelled.

27. *ALAUDA ARVENSIS CANTARELLA* Bp.

Alda arvensis Linn. ; Blanf. t. c. p. 239 ; Sharpe, Ibis, 1886, p. 497.

28. ♀ ad. Bushire, March 23rd.

This was the only specimen of the Skylark seen. It has the paler breast and white axillaries and underside of the wing characteristic of the Eastern form.

28. *ALAUDA ARBOREA* Linn. ; Blanf. t. c. p. 240.

93, 94, 95, 176, 211. Ad.

My specimens differ in no way from typical birds.

Dr. Blanford did not obtain the Wood-Lark, but he mentions that Ménétries found it near Lenkoran, on the Caspian. Lenkoran is just outside Persia. I found it only in the wooded Dasht-i-Bam, at an altitude of from 3000 ft. to 4500 ft. The birds were in pairs, and generally to be found "squatting" very close amongst the stones under the trees. The males every now and then flew up into the air and sang sweetly. From the condition of their breeding-organs I have no doubt that these birds would nest, or were nesting, in the Dasht-i-Bam.

The Wood-Lark has not been observed, I think, so far to the south-east before.

29. *MELANOCORYPHA BIMACULATA* (Ménétr.) ; Blanf. t. c. p. 244 ; Sharpe, Ibis, 1886, p. 497.

248, 299, 300, 354, 355, 370. Ad.

M. calandra, it appears, from what Dr. Blanford says, nests in Persia at a lower elevation than *M. bimaculata*. I did not obtain examples of the former species, but *M. bimaculata* was common, and seemed to be breeding all along the treeless, rolling, grassy country on the south-east side of Kuh-i-Dinar at elevations of between 6500 ft. and 9000 ft. This Calandra Lark is a beautiful songster.

30. *OTOCORYS PENICILLATA* (Gould); *Blanf. t. c. p. 240.*

339 & 340. ♂ ad.; 341. ♀ ad. May 21st, Berm Firuz (9300 ft.).

My specimens are typical of this species. It may be noted, however, that the black ear-coverts, although continued to the black throat-band, often form a somewhat broken union, and thus indicate the close relationship between this group of Horned Larks and that with the ear-coverts separated from the throat-band.

I saw Horned Larks only on the rough treeless hill-sides in the Berm Firuz, at an altitude of over 9000 ft. They were fairly common in that district on May 21st, and the males were "bowing and scraping" in pretty fashion to the females. The breeding-organs of the birds shot were much enlarged.

31. *MOTACILLA FELDEGGI* Michah; *Sharpe, Ibis, 1886, p. 486.*

Budytes melanocephalus (Licht.); *Blanf. t. c. p. 235.*

113, 114, 127, 281, 282, 351. Ad.

In 281 (♂ breeding bird) there is a clear indication of a white eyebrow, but all the other specimens have entirely black heads. *M. paradoxa* (C. L. Brehm) seems to me nothing more than an individual variation.

Black-headed Wagtails were numerous amongst the reeds in the marshes at Dasht-i-arjan (6700 ft.) and near Shiraz (5200 ft.), but I saw only a few elsewhere. Some of the birds appeared to be commencing to breed at Dasht-i-arjan at the beginning of April, and a nest in the marsh near Shiraz contained five eggs on May 3rd.

32. *MOTACILLA BOARULA* Linn.

Motacilla sulphurea Bechst.; *Blanf. t. c. p. 233.*

Motacilla melanope Pall.; *Sharpe, Ibis, 1891, p. 106.*

31. ♂ ad. March 23rd, Bushire.

This specimen agrees with the long-tailed European form of the Grey Wagtail, and not with the shorter-tailed Siberian form—the true *M. melanope* of Pallas. Both forms seem to be found in India and China in winter, but the short-tailed bird is, so far as I can judge, never found in Europe.

†33. *MOTACILLA ALBA* Linn.; Blanf. t. c. p. 232; Sharpe, Ibis, 1886, pp. 486 & 497, 1891, p. 106.

18. ♂ ad. March 22nd, Bushire.

251. ♀ ad. April 26th, Plateau near Dasht-i-arjan (7000 ft.).

I did not obtain *M. persica* Sharpe.

White Wagtails were nowhere common, but a few were seen here and there on most of the streams at all altitudes.

†34. *ANTHUS CERVINUS* (Pall.); Blanf. t. c. p. 236.

253. ♀ ad.

The Red-throated Pipit appears to be a rare migrant in Persia. My specimen was shot on April 26th on a plateau (7000 ft.) near Dasht-i-arjan, and I saw a few others in small flocks near Shiraz, on May 3rd.

35. *ANTHUS TRIVIALIS* (Linn.); Blanf. t. c. p. 235; Sharpe, Ibis, 1886, p. 486.

166. ♂ ad., near Dasht-i-arjan (6700 ft.).

212. ♂ ad., near Naksh-i-Bahram (3300 ft.).

The Tree-Pipit was seen only at two places on the borders of the oak-woods on April 11th and 20th.

The birds were in pairs, but did not appear to be breeding. Dr. Blanford found this species very rare in Persia.

36. *ANTHUS CAMPESTRIS* (Linn.); Blanf. t. c. p. 237; Sharpe, Ibis, 1886, p. 497, 1891, p. 106.

11. ♂ ad. March 21st, Bushire.

44. ♂ ad. March 29th, Konar Takhteh (1700 ft.).

The Tawny Pipit was seen only at the two places from which the skins were obtained.

37. *ANTHUS SORDIDUS* Rüpp.; Blanf. t. c. p. 237.

230. ♂ ad. April 23rd, near Pul-i-mard (3800 ft.).

408. ♀ ad. June 5th, near Sadat (7250 ft.).

The typical *A. sordidus*, from Abyssinia, appears to be always very dark on the upper parts, and birds from Somaliland are generally but not always so, while specimens from India, Sokotra, and Persia are usually much paler, although

some examples from India are as dark as the Abyssinian birds. My specimens are both of the pale variety, and were the only two obtained. Pipits of all kinds were rare in Persia.

38. *ACREDULA TEPHRONOTA* Günther ; Blanf. t. c. p. 231.
100, 101, 102, 132, 153, 216. Ad.

These specimens are slightly paler than examples from Turkey and Asia Minor.

This Long-tailed Tit was confined to the oak-woods, where it was fairly common at various altitudes. In habits and notes it resembles *A. caudata*.

A nest, containing seven young, found in a thorn-tree, near Kaluni (4300 ft.), on April 4th, might be said to be made of feathers, covered with fragments of dead leaves fastened together with cobwebs. The leaves are of a grey colour and in very small pieces, so that at a little distance the nest looks as if it were covered with rather dull-coloured lichen.

39. *PARUS LUGUBRIS DUBIUS* Hellmayr, J. f. O. 1901, p. 172.

Pæcile lugubris persica Prazak (nec *Parus persicus* Blanf.), Orn. Jahrb. 1895, p. 81.

Parus lugubris? Natt. ; Blanf. t. c. p. 229.

137, 142, 161, 162, 171, 172. Ad. ; 237, 384, 399. Juv.

Dr. Blanford has called attention to the differences between the Persian bird and the typical *P. lugubris*, and I consider that Dr. Hellmayr is correct in upholding Prazak's opinion of its distinctness.

My specimens are all alike, and compared with Western birds they are quite distinct, being very much greyer on the back and of a much purer white on the under parts.

This Tit was met with throughout the oak-woods to which it was confined, but it was nowhere common.

At Pul-i-mard (3800 ft.) I saw fully-fledged young on April 23rd, and again near Aliabad (7300 ft.) on May 18th.

40. *PARUS MAJOR* Linn. ; Blanf. t. c. p. 227.

64, 76, 89, 104, 147, 148, 178, 179, 205, 297. Ad. ; 187, 306. Juv.

The Great Tit appears to vary considerably in shade of colour.

Birds from Cyprus, Palestine, Transcaspia, and Persia are generally less vividly coloured than those from further west, the green of the back being paler and more confined, and the yellow of the under parts being also paler. My specimens are constant in these characters, but Dr. Blanford observed that some Persian specimens had the back rather darker than European birds. On the other hand, I have seen specimens from Spain and Greece as pale or paler than my Persian specimens.

Parus aphrodite Madarász, from Cyprus, seems to be a distinct species, and not merely a subspecies, of *P. major*, for it has grey flanks, and is quite different from the pale form of *P. major* found on that island.

The Great Tit was, with the exception of the Chukar, the commonest and most evenly distributed bird met with during our journey. Except on the plains at the coast and in districts quite bare of trees, it was seen from 2700 ft. at Kamarij, to 10,000 ft. at the top of the pass over Dinar, where a pair was frequenting a stunted tree. Throughout the oak-woods it was especially common.

The dates I noticed for nesting and for fledged young birds were, perhaps, a little earlier than those for the Blue Tit.

41. *PARUS CÆRULEUS PERSICUS* Blanf.

Parus (Cyanistes) persicus Blanf. t. c. p. 230.

82, 86, 88, 145, 146, 169, 180. Ad. ; 307. Juv.

The Persian Blue Tit seems to be a distinct race. It is generally smaller than the European bird and is paler in coloration. The white tips to the greater wing-coverts are, moreover, also broader than in *P. cæruleus*.

This bird was common throughout the oak-woods, but I did not see it elsewhere. Its habits and notes, and its nests and eggs, resemble those of our bird. I noticed, however,

that the Tits in Persia had very small broods (*e. g.* Blue Tit, 3 incubated eggs; Tom Tit, nest of 5 young; Long-tailed Tit, nest of 7 young). I cannot suggest a reason for this, as food appeared to be very plentiful. All the Tits had fledged young by April 23rd at 4000 ft., and by April 28th at 6700 ft.

42. *SITTA EUROPEA PERSICA*, subsp. nov. (type in British Museum).

Differs from *S. e. europæa* Linn. in its smaller size, the distinct creamy wash on the breast and abdomen, and the whitish forehead, this whitish colour being continued into a narrow superciliary stripe.

Differs from *S. e. casia* Wolf in its much paler under surface, its white throat, and its whitish forehead. In the latter character it agrees with *S. e. caucasica* Rehw. (see Orn. Monatsb. 1901, p. 53), but instead of being darker on the breast than *S. casia* it is much paler.

	Wing.	Culmen.		Wing.	Culmen.
87. ♂ ad.	800 mm.	200 mm.	}	140. ♂ ad.	790 mm.
96. ♂ ad.	820 "	200 "		141. ♀ ad.	800 "
97. ♀ ad.	810 "	200 "		380 & 388. Juv.	190 "

Hab. Oak-woods of S.W. Persia.

Dr. Blanford obtained a single specimen of the Nuthatch in the Elburz Mountains, in North Persia, but it is probable that his bird would belong to the dark-breasted Caucasian form.

This Nuthatch appears to be very constant in the coloration of its under surface. In the large series of *S. casia* in the British Museum there is a specimen from Hungary which very nearly matches my bird, but other examples from the same locality are much darker.

This Nuthatch was confined to the oak-woods where, however, it was very common. In notes and habits it appeared to be identical with *S. e. casia*. I found several nests in old nesting-holes of *Dendrocopus sancti-johannis*. The nests were of the usual Nuthatch character, but the holes were "mudded" on the inside only, and with horse-dung instead of mud. I suppose the small hole made by this Woodpecker

was of the right size for the Nuthatch, and therefore it did not need mud on the outside, but the use of dung on the inside seemed curious, because there was plenty of mud obtainable. Most seasons, however, are perhaps too dry for the birds to obtain mud when they require it, and the use of dung instead may have possibly become a permanent habit with these birds. At Kalah-Mushir, on April 9th, a nest contained seven hard-set eggs which do not differ from those of *S. e. casia*. At the same place, on April 12th, I found a finished nest without eggs. Young were fledged on May 18th, near Aliabad (7300 ft.).

43. *SITTA NEUMAYERI SYRIACA*.

Sitta syriaca Ehr. ; Blanf. t. c. p. 223.

Sitta rupicola Blanf. t. c. p. 225.

33, 58, 59, 128, 129, 325, 407, 415. Ad. ; 336, 337. Juv.

I can recognise only two forms of the Rock-Nuthatch—*Sitta neumayeri* Michah (smaller and darker ; from Europe, Asia Minor to Caucasus), and *S. syriaca* Ehr. (larger and paler, with the breast white or creamy, outer tail-feathers with or without rust-coloured marks ; from Syria, Palestine, Caucasus, Persia, Turkestan, Baluchistan, and Afghanistan).

Dr. Hellmayr (Tierr. 18 Lief., Paridæ &c., pp. 174 & 175) has distinguished *S. n. syriaca*, with a white breast, and the outer tail-feathers either without rust-coloured markings or with only a narrow edge of that colour. *S. n. tephronota* Sharpe, has a creamy breast and rust-marked outer tail-feathers. But these features are by no means constant ; all my specimens have white breasts, but other specimens from Persia have creamy breasts. Some of my specimens have the outer tail-feathers rust-marked and some have not. The length of the black eye-stripe is also a very variable feature.

The Rock-Nuthatch was very common throughout our journey. We noticed it in the first pass from the coast, and saw it on the Kuh-i-Dinar at an elevation of nearly 10,000 ft.

It is a most amusing bird to watch, and has an extraordinary variety of loud and far-sounding notes. It can whistle

shrilly like a man, cry like a kitten, and repeat a piping note so rapidly that it sounds almost like a Goatsucker jarring. Besides these it has a variety of other notes, many of them very harsh, and is an exceedingly noisy bird.

It climbs about the rocks and trees or sloping ground with equal facility, although it is usually found amongst rocks. When it sees anyone it stands straight up on the top of a boulder and bobs rapidly up and down. Young, well-fledged and well-grown, were in noisy parties at Ardakun (7500 ft.) on May 20th, and were numerous at various places after that date.

44. *LANIUS DEALBATUS* de Filippi; Ogilvie-Grant, Nov. Zool. ix. p. 458, pl. xxvii. fig. 9.

Lanius fallax Sharpe (nec Finsch), Ibis, 1886, p. 484.

24. ♂ ad. March 22nd, Bushire.

65. ♂ ad. March 31st, Kazran (2700 ft.).

185. ♂ ad. April 16th, near Nudan (3200 ft.).

No. 24 is typical of this species, as distinguished by Mr. Ogilvie-Grant. Nos. 65 and 185 have the inner webs of most of the secondaries brown or dusky instead of white; but in some newly-grown feathers the inner web is partially white. In working out my Shrikes I have followed Mr. Ogilvie-Grant in his latest work on the subject, but most of the characters that it is possible to use in distinguishing the Grey Shrikes are variable and unsatisfactory.

Dr. Blanford refers his specimens of Great Grey Shrikes, which were all obtained in Baluchistan and S.E. Persia, to *L. lahtora* Sykes.

Great Grey Shrikes were uncommon, and I saw only a few near the coast and in the oak-woods up to an elevation of 3300 ft. They were very wild and difficult to approach.

The bird shot on April 16th appeared to be breeding.

45. *LANIUS PALLIDIROSTRIS* Cassin; Ogilvie-Grant, t. c. p. 459, pl. xxvii. fig. 11.

35. ♂ ad.

An adult male typical of this species, as distinguished by Mr. Ogilvie-Grant, was obtained at Konar Takhteh (1700 ft.) on March 28th. Its testes were much enlarged.

46. *LANIUS MINOR* Gmel. ; Blanf. t. c. p. 137 ; Sharpe, Ibis, 1886, p. 484, 1891, p. 107.

244, 265, 286, 295, 296, 393, 420. Ad.

I did not see the Lesser Grey Shrike until April 25th, near Shul (6800 ft.). It was common at Shiraz, and elsewhere it was locally distributed up to an altitude of about 6800 ft. Judging by the organs of the birds shot, it does not breed before the end of May or beginning of June. It is very much tamer than other Grey Shrikes.

47. *LANIUS COLLURIO* Linn. ; Blanf. t. c. p. 137 ; Sharpe, Ibis, 1886, pp. 485 & 497, 1891, p. 107.

338. Juv.

Dr. Blanford did not meet with the Red-backed Shrike, and considered it probable that it was only to be found in North-eastern Persia. Mr. Palmer obtained one specimen at Bushire (Sharpe, t. c.), and I obtained an immature example, which appeared to be alone, on May 28th, near Ardakun (7000 ft.). I also winged a mature male, near Shiraz, on April 30th, but was unable to retrieve it owing to the vagaries of a mule. The bird must be rare in this part of Persia.

48. *LANIUS NUBICUS* Licht. ; Sharpe, Ibis, 1886, p. 485, 1891, p. 107.

73, 84, 90, 164. Ad. ; 441. Juv.

Curiously enough, Dr. Blanford does not mention the Masked Shrike. Mr. Cumming considered it migratory at Fao (Sharpe, t. c.). I found it common and breeding in the oak-woods at various elevations. A nest near Naksh-i-Bahram (3400 ft.) contained three fresh eggs on April 20th, and near Basht (4000 ft.) there were full-fledged young on June 10th.

49. *LANIUS RUFUS* Gmel. ; Ogilvie-Grant, t. c. p. 465.

Lanius auriculatus Müll. ; Blanf. t. c. p. 188 ; Sharpe, Ibis, 1886, pp. 485 & 497, 1891, p. 107.

156, 157, 193, 203, 457. Ad. ; 454. Juv.

My female specimens are pale on the head and back, and all the examples have white bases to the middle tail-feathers.

This form of the Woodchat was fairly common in the more southern parts of the country we traversed, but I did not notice it north of Tol-i-safid. Dr. Blanford obtained Woodchats (presumably of this species) near Shiraz only, while the birds found by De Filippi in North Persia may have been *L. pomeranus*, but Mr. Ogilvie-Grant does not include North Persia in the range of either species.

50. *LANIUS PHENICUROIDES* Severtz. ; Ogilvie-Grant, Nov. Zool. ix. p. 486 et p. xi ; Sharpe, Ibis, 1886, p. 485.

? *Lanius isabellinus* Hempr. & Ehr. ; Blanf. t. c. p. 139.

19. ♂ ad. March 22nd, Bushire.

199. ♂ ad. April 19, near Nudan (3200 ft.).

410. ♂ ad. June 6th, near Sadat (7250 ft.).

My specimens are sandy grey on the back and pale rufous on the head, while from his description it appears that all those obtained by Dr. Blanford had rufous heads.

The distinction between this species and the next is, however, in some specimens, very obscure, and it is doubtful whether Mr. Ogilvie-Grant is well advised in separating the rufous-headed examples.

This Shrike was by no means common, and I saw it only occasionally at various altitudes in the oak-woods. The specimen No. 199 appeared to be breeding.

51. *LANIUS ISABELLINUS* Hempr. & Ehr. ; Ogilvie-Grant, t. c. p. 482.

51. ♀ ad. March 29th, Konar Takhteh (1700 ft.).

This specimen is of a pale and uniform sandy-grey colour on the head and back, and the upper tail-coverts and tail are pale rufous.

52. *ARGYA HUTTONI* (Blyth) ; Sharpe, Ibis, 1886, p. 484, 1891, p. 110.

Crateropus (Chatorhea) huttoni (Blyth) ; Blanf. t. c. p. 203, 42, 43, 214. Ad.

This Babbler was common on the plains below 3500 ft. It has a piping note and the same habits as *A. acaciæ*. A nest, built about five feet from the ground in a mimosa-bush

near Naksh-i-Bahram (3400 ft.), contained three eggs on April 20th. I watched the bird return silently and stealthily to the nest. On dissection it proved to be the male.

53. *BURNESIA GRACILIS LEPIDA* (Blyth).

Drymæca gracilis (Licht.); Blanf. t. c. p. 206.

Burnesia lepida (Blyth); Sharpe, *Ibis*, 1886, pp. 481 & 496, 1891, p. 109.

14. ♂ ad.; 23. ♂ ad. March 22nd, Bushire.

189. ♂ ad. April 17th, near Nudan (3500 ft.).

This charming little bird was fairly common in the fields in the valleys between Bushire and Shiraz. In flight it looks like a bit of straw blown hither and thither by the wind. Besides a squeaky "zit-zit" note and a locust-like song, it makes a curious small sucking noise as it hovers and flits over the corn. Its habits of flitting the wings and jerking the tail from side to side when perched reminded me much of *Spiloptila clamans*. A nest, made of dry grass and feathers and lined with seed-down, and shaped like that of a Long-tailed Tit, was found in a clump of short reeds on the borders of a marsh near Shiraz on May 3rd. It contained one egg, of a pale blue colour thickly spotted with red. The egg measures 155 × 110 mm.

54. *SCOTOCERCA INQUIETA* (Cretzschm.); Blanf. t. c. p. 207; Sharpe, *Ibis*, 1891, p. 109.

130. ♂ ad. April 7th, near Dasht-i-arjan (7000 ft.).

231, 232, 233. Juv. April 23rd, near Pul-i-mard (3800 ft.).

I saw this little bird in three localities only, viz.: on rocky bush-covered hill-sides near Dasht-i-arjan, at Shul (6800 ft.), and at Pul-i-mard. At the last place a party of seven fully-fledged young birds was seen on April 23rd. As Dr. Blandford remarks, these birds try to hide themselves in the bushes when danger threatens. They have a faint "chuck, chuck" note. They climb about the twigs of the bushes and wag their tails from side to side.

55. *CETTIA SERICEA* (Temm.).

Bradypterus cetti (Marm.); Blanf. t. c. p. 200.

Cettia orientalis Tristr.; Sharpe, *Ibis*, 1891, p. 108.

226. ♂. April 29th, near Shiraz (about 6000 ft.).

328. ♀. May 19th, Shir River (7000 ft.).

In the large series of Cetti's Warbler in the British Museum I find as much individual variation in the colour of the western as in that of the eastern specimens, and I do not consider that *C. orientalis* is distinct either as a species or a subspecies.

By the sides of streams and in dry river-beds, where bushes grew thickly, Cetti's Warbler was common from 3000 ft. to over 9000 ft. I seldom saw the bird distinctly, but its unmistakable song, which is like nothing else that I have ever heard, was sufficient for identification. This song is really wonderful. From the dense bushes or other vegetation one suddenly hears a burst of loud and stridulous notes rapidly uttered. Then all is abruptly silent and nothing can be seen. Again, a little further on, another crash of song breaks forth from the bushes and as suddenly stops, and at length a small brown bird is seen skulking through the undergrowth. And so every time one tries to trace the performer one catches a glimpse of this little bird, and is obliged to come to the reluctant conclusion that so small a creature really does make so loud a noise.

56. *PHYLLOSCOPUS NEGLECTUS* Hume; Blanf. t. c. p. 182.

259. ♀ ad. April 28th, Kalah-Mushir (6700 ft.).

418. ♀ ad. June 8th, near Bija (5000 ft.).

Dr. Blanford obtained only two examples of this species, one at Shiraz and one in Baluchistan, both in winter. I observed the bird only in the two localities from which my specimens are dated.

On April 11th, at Kalah-Mushir, I saw a pair of these tiny Warblers carrying nesting-materials about on a rough hill-side well overgrown with oak trees. I sat down and watched the birds. They were not at all shy, and flitted from twig to twig, uttering a faint single note like that of a Golderest. Having roughly located the position of the nest by the actions of the birds, I searched for it and soon found it between two bushy branches of a small thickly growing bush about two feet six inches from the ground.

It was then more or less cup-shaped and partially lined with feathers. On the 14th I visited the nest again and found it domed and nearly completed. I then saw that it was almost in the form of a cylinder, with the opening near the top of one end, and was built parallel to the ground. As I had no idea what the birds were, and hoped that either they or their eggs might be unknown, I determined to leave them in peace and return later. This I did on April 28th, making a two days' journey off my route for the purpose. The nest was then finished, being plentifully lined with feathers, and containing four eggs. The hen bird was sitting, and while I watched she returned very quietly and stealthily to the nest. The cock bird I never saw, although I waited some four hours for him, so I secured the hen. It was raining and blowing hard, and so small and inconspicuous a bird it was difficult to see among the moving leaves. The eggs were very slightly incubated, and the bird's ovaries were small, so I presume that she had finished laying. The time occupied by the building of the nest must have been a fortnight or more. It was neatly woven of grass.

The eggs are pure white, unspotted, and large for the size of the bird, each measuring 150×101 mm.

A nest and eggs described and figured by Lorenz under the name of *Phylloscopus lorenzi* Severtz. (Beitr. Orn. Nord. Kaukasus, p. 28, pl. ii. fig. 2), if belonging to *P. neglectus*, are very different from my specimens. The nest figured is oven-shaped, like that of a Chiffchaff, and was placed amongst small bushes on the ground, while the eggs are described as of a white ground-colour, speckled and spotted with reddish brown, and distinctly zoned. However, my specimens are possibly abnormal.

The late Mr. W. E. Brooks has described this bird as timid and watchful and non-Phylloscopine. My acquaintance with it is slight, but neither the birds that I watched at the nest nor the female when shot later were shy. In habits they were, in my opinion, quite characteristic of *Phylloscopus*. The nest, too, is Phylloscopine.

57. *PHYLLOSCOPUS TROCHILUS* (Linn.); Blanf. t. c. p. 180; Sharpe, Ibis, 1886, p. 481, 1891, p. 108.

182, 170, 221. Ad.

The Willow-Wren was seen at various altitudes, but not later than April 21st.

58. *PHYLLOSCOPUS RUFUS* (Bechst.).

Phylloscopus collybita (Vieillot); Blanf. t. c. p. 181.

Phylloscopus rufus (Bechst.); Sharpe, Ibis, 1886, pp. 481 & 495.

4, 10, 144, 188. Ad.

These specimens are all, I consider, typical *P. rufus*. Dr. Blanford obtained the eastern form of the Chiffchaff (*P. tristis* Blyth) in Baluchistan, but not in Persia proper. The specimen from Fao in the British Museum, identified by Dr. Sharpe as *P. tristis* (Ibis, 1886, p. 481), is, I believe, *P. rufus*, the breast being tinged with yellow and the tarsi being paler than in typical *P. tristis*.

The Chiffchaff was fairly common at various altitudes up to the end of April, but I have no note of seeing it later, and think that it is only a winter migrant to the country.

59. *SYLVIA MYSTACEA* Ménétr.; Sharpe, Ibis, 1891, p. 108

Sylvia rubescens Blanf. t. c. p. 177.

20, 41, 61, 274, 450. Ad.; 190. Juv.

This Warbler was found fairly common in valleys where there were bushes, but I did not notice it at a higher altitude than 5500 ft. On May 2nd I took a nest with fresh eggs from a small bush in the Bagh-i-Mallock at Shiraz (5200 ft.), and on May 31st another with five hard-set eggs from a small bush in the river-bed at Dorah (5300 ft.). Both nests were within a few inches of the ground.

The nests are slight, made of fine roots and grass, and lined with still finer pieces of the same materials. The five eggs of one clutch measure 180 × 135 mm., and the five of the other 170 × 130 mm.

The cock bird has a charming Pipit-like "singing flight," but the song itself is somewhat rasping and unpleasing.

Both sexes are fond of spreading their tails when flying and when perched.

60. *SYLVIA NANA* (Hempr. & Ehr.); Blanf. t. c. p. 178.

39. ♀ ad.; 50. ♀ ad. March 29th, Konar Takhteh (1700 ft.).

The Desert-Warbler was fairly common in the valleys of Konar Takhteh and Kazran (2700 ft.), but I did not obtain it elsewhere.

It frequented small bushes near corn-fields, and was as often as not on the ground underneath them. It was also very fond of skulking along the bottoms of the "hedges" (made of mimosa-boughs) round the corn. Occasionally it took a short flight, and alighting at the top of a bush rapidly made its way through it to the bottom again.

61. *SYLVIA ATRICAPILLA* (Linn.); Blanf. t. c. p. 174; Sharpe, Ibis, 1886, pp. 481 & 495.

53. ♂. March 30th, near Konar Takhteh (1700 ft.).

150. ♂. April 10th, near Kalah Mushir (6700 ft.).

285. ♀. May 2nd, Shiraz (5200 ft.).

These specimens and others in the British Museum from the Persian Gulf are decidedly pale on the upper parts. Two birds from Fao are, however, darker, and birds from Europe vary in coloration, so that I shall not separate the Persian bird. More material, however, may shew that the Blackcap resident in Persia is constantly pale and worthy of sub-specific rank.

Dr. Blanford had no specimens, and I saw only the three which I obtained, and could not be sure whether the bird bred in the country. I never heard it singing, but the testes of the male shot on April 10th were considerably enlarged, although the ovaries of the female shot three weeks later were small.

62. *SYLVIA CURRUCA* (Linn.); Blanf. t. c. p. 175; Sharpe, Ibis, 1886, p. 495, 1891, p. 108.

374, 375. ♂ ad. May 29th, near Sisakht (6500 ft.).

63. SYLVIA AFFINIS Blyth; Blanf. t. c. p. 176; Sharpe, Ibis, 1886, p. 495.

85. ♂ ad. April 3rd, near Kaluni (4400 ft.).

139. ♂ ad. April 8th, near Dasht-i-arjan (6700 ft.).

I have distinguished these species by the wing-formula only, the second primaries of Nos. 374, 375 being intermediate between the 5th and 6th, and those of Nos. 85 and 139 between the 6th and 7th.

The colour of the upper parts varies considerably in both forms.

Lesser Whitethroats were common in many parts of the oak-woods, but they did not appear to be breeding, even at the beginning of June.

64. SYLVIA CINEREA Bechst.; Sharpe, Ibis, 1886, p. 481; 1891, p. 108.

Sylvia rufa (Bodd.); Blanf. t. c. p. 174.

223. ♂ ad. April 21st, near Naksh-i-Bahram (3300 ft.).

323. ♀ ad. May 19th, Shir River (about 7000 ft.).

The organs of neither of these specimens were in breeding condition, and I am not sure that the Whitethroat breeds in this part of Persia, though it probably does so. It was seen here and there, but was by no means a common bird.

65. SYLVIA ORPHEA JERDONI.

Sylvia jerdoni Blyth; Blanf. t. c. p. 172.

133, 134, 135, 136, 196, 201, 311, 411. Ad.

Culmen: males, .7 to .75 inch; females, .68 to .7 inch.

The eastern form of the Orphean Warbler was found here and there from 3300 ft. to over 7000 ft. where there were bushes amongst the trees. On May 17th I found its slightly made nest placed in a thorn-bush about five feet from the ground in an oak-wood at an altitude of 7300 ft. The nest contained four eggs.

66. HYPOLAIS PALLIDA (Hempr. & Ehr.).

Hypolais rama Sykes.

Hypolais pallida Hempr. & Ehr. }

Blanf. t. c. p. 187.

Hypolais obsoleta Sharpe (nec Severtz.), Ibis, 1886, p. 481.

48, 49, 208, 209, 272, 386, 387. Ad.

The darker colour of *H. rama* and the wing-formula distinguish it easily, I think, from *H. pallida*. My specimens are grey, even for *H. pallida*, on the upper parts.

The specimens in the British Museum from Fao identified by Dr. Sharpe as *H. obsoleta* should have been referred to this species.

The Olivaceous Warbler was especially common in the more or less cultivated valleys. I did not notice it in the oak-woods nor above an altitude of 5000 ft. In the gardens at Shiraz it was nesting in the rose-bushes at the beginning of May, and its soft rambling song was to be heard on all sides. Four eggs were in several cases a full clutch.

67. *HYPOLAIS LANGUIDA* (Hempr. & Ehr.); Blanf. t. c. p. 183; Sharpe, *Ibis*, 1891, p. 108.

154, 302, 324, 383, 406. Ad.

Upcher's Warbler was fairly common where there were bushes either growing amongst the oak-woods or in more barren country. I did not observe it, however, below an altitude of 6500 ft. A nest found on May 30th at that altitude contained four eggs on the point of hatching. The nest was placed in a thorn-bush about three feet from the ground, and the eggs when taken were of a delicate mauve ground-colour.

68. *LUSCINIOLA MELANOPOGON MIMICA*.

Lusciniola mimica Madarász, Vorl. u. c. neuen Rohrsänger, 1903.

Calamodus melanopogon (Temm.); Blanf. t. c. p. 198.

125. ♂ ad.; 126. ♂ ad. April 7th, Dasht-i-arjan (7000 ft.).

254. ♀ ad. April 26th, near Kherak (7000 ft.).

Specimens of the Moustached Warbler from India and Persia are larger, much less rufous, and paler than specimens from Europe and Asia Minor. They are also more striated on the crown, and olivaceous rather than rufous on the flanks. Egyptian birds are somewhat intermediate, but should, I think, be referred to the western form.

I saw this bird only in places where there were thick reed-

beds, while its habits and call-notes appeared to me to resemble those of the Sedge-Warbler.

69. *ACROCEPHALUS PALUSTRIS* (Bechst.); Blanf. t. c. p. 197; Sharpe, Ibis, 1886, p. 482.

316, 317, 322, 350, 363, 364. Ad.

I did not see the Marsh-Warbler until May 18th near Pul-i-mard (6300 ft.). After that date it was met with commonly from 5000 ft. to over 9000 ft., both in the treeless country to the south-east of the Kuh-i-Dinar and in the oak-woods to the south-west of that mountain. I concluded from this that the bird was a migrant and had only just arrived in the country when first I saw it, but Dr. Blanford's single specimen was taken at Shiraz in December. Mr. Cumming, however, considered it migratory at Fao, where it was seen in March and April (Sharpe, t. c.).

70. *ACROCEPHALUS STENTOREUS* (Hempr. & Ehr.); Blanf. t. c. p. 194.

74, 452. Ad.; 455. Juv.

This loud-voiced Reed-Warbler (its notes are even louder and harsher than those of *A. turdoides*) was found only in a few places at low altitudes (1500 ft. to 3500 ft.), but Dr. Blanford obtained it up to 7000 ft. In these places, where reeds grew thickly, the bird was common. The fledged young bird was obtained on June 13th.

71. *AËDON FAMILIARIS* (Ménétr.); Blanf. t. c. p. 210; Sharpe, Ibis, 1891, p. 107.

Sylvia familiaris Ménétr.; Sharpe, Ibis, 1886, p. 495.

37, 149, 389. Ad.

This pale eastern form of that charming bird the Rufous Warbler was found on all the fertile plains between Bushire and Shiraz, and in a few places to the north-west of the latter town.

The bird was breeding at the end of March at Konar Takhteh (700 ft.), at Do Rah (5300 ft.) at the end of May, but not at Dasht-i-arjan (6700 ft.) in the middle of April.

A nest found about 18 inches from the ground, in a small bush in the dry river-bed of the Khersun (5300 ft.), contained

four fresh eggs on May 31st. The eggs are of a pale blue, thinly spotted with brown and mauve, and resemble a clutch taken near Shiraz, now in the British Museum.

The bird's downward flight with uplifted wings always reminds me of the beautiful flight of a *Papilio* butterfly.

72. *ACCENTOR JERDONI* Brooks.

371. ♀ ad. May 28th, Kuh-i-Dinar (9500 ft.).

At first sight this specimen is barely recognisable as being of this species. The pectoral band, instead of being rich rufous, is exceedingly ill-defined and of a pale buff colour, the throat is unspotted, the eye-stripe is white instead of buff, and the upper parts are pale. But the plumage of the bird is considerably worn, and I think that this accounts for much of the difference. Some specimens from Gilgit, in the British Museum, approach my bird nearly, so far as paleness of coloration is concerned, but none have so white an eye-stripe or so faint a pectoral band.

So far as I am aware, *A. jerdoni* has not been found outside India before, and its range in Persia must be limited to the highest mountains. I saw only one pair, which was on a patch of snow near the top of the pass (Gardan-i-Bijan) over Kuh-i-Dinar. They "shuffled" along in the snow with half-closed wings, much as a Hedge-Sparrow does along the bottom of a hedge. Owing to want of small shot at the time I managed to secure only one specimen.

The ovaries were much enlarged, and the bird was evidently breeding.

73. *SAXICOLA CHRYSOPYGIA* (De Fil.) ; Blanf. t. c. p. 151.

343. ♂ ad. May 21st, Berm Firuz (9300 ft.).

369. ♂ ad. May 27th, Kuh-i-Dinar (9500 ft.).

The Red-tailed Wheatear was rare, and only found on the most rocky and barren hill-sides at elevations of over 9000 ft. in the Berm Firuz region and on the pass over Dinar. Both my specimens are males ; and, judging by their actions and by the state of the breeding-organs, the females must have been incubating. Unfortunately, I could not find a nest. It was quite hopeless to search for it, since the country was

covered with stones, under any of which the nest might have been, while the birds were very wild, and there was no cover from which to watch them.

74. *SAXICOLA MELANOLEUCA* (Güld.); Blanf. t. c. p. 150; Sharpe, Ibis, 1886, p. 483.

158, 163, 167, 168, 177, 379. Ad.

The colour of the mantle varies greatly in different individuals. Dr. Blanford considered this a rare bird in Persia, but I found it plentiful in a few localities. At Kalah Mushir (6700 ft.) it was especially so at the beginning of April, and the organs of some of the specimens shot there were in a breeding-condition, while those of others were not. In the oak-woods near Sisakht (6500 ft.) these birds were evidently breeding at the end of May. Like all Wheatears, they were shy and difficult to get near. They generally perched in the bushes and trees, and every now and then darted to the ground for food and returned to their perch in a Shrike-like fashion.

Near Tassi (6800 ft.), where this species was common amongst the oak-trees on the rocky hill-sides, I saw fledged young ones on June 5th.

75. *SAXICOLA ALBICOLLIS* (Vieill.).

Saxicola stapazina (L.) nec auct.; Blanf. t. c. p. 150.

151, 173. Ad.

The Black-cared Wheatear had much the same distribution as *S. melanoleuca*, and was often to be found in company with it.

76. *SAXICOLA MORIO* Hempr. & Ehr.; Blauf. t. c. p. 152; Sharpe, Ibis, 1886, pp. 483 & 496.

6, 55, 99, 103, 152, 159, 227. Ad.

All these specimens have white under tail-coverts, but some of them have the inner margins of the primaries distinctly grey, not black, like typical *S. morio*, nor white, like typical *S. persica* Seeböhm.

This Wheatear was fairly evenly distributed, being observed from the coast up to altitudes of over 6000 feet.

77. *SAXICOLA DESERTI* Temm.; Blanf. t. c. p. 148; Sharpe, Ibis, 1886, pp. 483 & 496.

12, 47. Ad.

The Desert-Wheatcar was only noticed at Bushire and Konar Takhteh at the end of March.

78. *SAXICOLA PICATA* Blyth; Blanf. t. c. p. 153.

57. ♂ ad. March 30th, near Konar Takhteh (1700 ft.).

453. ♂ ad. June 13th, near Tol-i-safid (3200 ft.).

Dr. Blanford did not notice this Wheatcar west of Shiraz, and it seems to be rare in S.W. Persia, which is, I suppose, the extreme western limit of its range. I observed it only at low altitudes, where it was breeding.

79. *SAXICOLA ISABELLINA* Cretzschm.; Blanf. t. c. p. 147; Sharpe, Ibis, 1886, pp. 483 & 496.

40, 117, 242. Ad.; 202. Juv.

Dr. Blanford remarks that this is probably, on the whole, the commonest Persian Chat, and I also found it to be so. The bird was widely distributed throughout the treeless part of the country. Besides a chirping call, it has a rather loud whistling note, which sounded to me very "un-Chat" like. It has a beautiful fluttering flight while it sings, both the flight and song being much like those of a Crested Lark. On April 29th, near Shiraz (5200 ft.), a pair evidently had young in a long winding hole in a rocky bank; but we very seldom saw holes such as this, and I think that the bird must usually breed under stones. My young bird, which is fully feathered, was obtained on April 19th at 3300 ft.

~80. *SAXICOLA GENANTHE* (Linn.); Blanf. t. c. p. 146; Sharpe, Ibis, 1886, p. 483, 1891, p. 109.

7. ♂ ad. March 21st, Bushire.

243. ♀ ad. April 25th, Shul, 6800 ft.

These were the only specimens of the Common Wheatcar seen, and in neither were the breeding-organs developed, but judging from the observations of Dr. Blanford the species breeds sparingly in Persia.

81. PRATINCOLA RUBICOLA MAURA (Pall.).

Pratincola rubicola (Linn.); Blanf. t. c. p. 145.

Pratincola hemprichi Sharpe (nec Ehr.), Ibis, 1886, pp. 480 & 494.

17, 38, 46, 112, 245, 284, 342, 346, 360. Ad.

The amount of white at the base of the tail in specimens of this species from Persia varies considerably, and in my opinion all the skins from Bushire and Fao in the British Museum are referable to this species, and not to *P. hemprichi*. The amount of white in the axillaries is also variable. Typical *P. hemprichi* has white tail-feathers with black tips, and the birds from Persia never have much more than the basal half of the tail-feathers white.

The two forms, however, intergrade, and, although their supposed ranges overlap, I am inclined to think that the true *P. hemprichi* will be found to be a subspecies of *P. rubicola* with a separate residential range.

Dr. Blanford considered Stone-Chats rather scarce in Persia. I did not see them in the wooded country, but they were fairly common here and there in the open country from sea-level to over 9000 ft. Of those shot, the first with organs in a breeding-condition was obtained at Shul (6800 ft.) on April 25th. A nest on the borders of a marsh near Shiraz contained hard-set eggs on May 3rd.

82. RUTICILLA PHENICURUS (Linn.); Blanf. t. c. p. 163; Sharpe, Ibis, 1886, p. 496 [part.].

25. ♂ ad.; 26. ♀ ad. March 22nd, Bushire.

78. ♂ ad. April 3rd, Kaluni (4500 ft.).

138. ♂ ad. April 8th, Dasht-i-arjan (6700 ft.).

385. ♂ juv. May 31st, Khersun River (5300 ft.).

394. ♂ juv. June 1st, Chinar (6600 ft.).

Specimens 25, 26, & 78, and one of those collected by Mr. Palmer at Bushire (now in the British Museum), although in abraded plumage, have distinct indications of white edgings to the secondaries. They thus seem intermediate between *R. phenicurus* and *R. mesoleuca*. Dr. Blanford was uncertain of the occurrence of the Common

Redstart in Persia, but I believe it be the common breeding Redstart of the region of the oak-woods.

A nest in a hole in an oak tree near Aliabad (7300 ft.) contained eggs on May 18th.

83. *RUTICILLA RUFIVENTRIS* (Vieill.); Blanf. t. c. p. 163.

Ruticilla phœnicura (Linn.); Sharpe, Ibis, 1886, p. 496 [part.].

5. ♀ ad. Bushire, March 21st.

I obtained only one female specimen of this Redstart, but there is a male specimen in the British Museum, procured by Mr. Palmer at Bushire, and inadvertently included by Dr. Sharpe amongst the specimens of *R. phœnicurus*.

Dr. Blanford observed this species only in Baluchistan and in South-eastern Persia.

84. *DAULIAS GOLZI* (Cab.).

Daulias hafizi (Severtz.); Blanf. t. c. p. 169.

66, 224, 262, 271. Ad.

The "Bul-bul" of the Persians was common in the gardens of Kazran and Shiraz, but elsewhere it was local and scarce. The song seemed to me very little inferior to that of our Nightingale.

A nest at Shiraz, placed on the ground and well hidden amongst some weeds at the base of a tree, was made of dry leaves and contained five fresh olive-brown eggs on May 8th.

85. *ERITHACUS GUTTURALIS* (Guér.); Sharpe, Ibis, 1886, pp. 482 & 495.

Cossypha (Irania) gutturalis Guér.; Blanf. t. c. p. 161.

56, 98, 108, 116, 155, 222, 318, 347, 348. Ad.

There is a considerable variation in both the length and breadth of the white wedge-shaped patch on the chin, but I think that this is greatly due to the abrasion of the feathers. No. 347 ♂ has the breast white, very slightly tinged with buff, but is otherwise normally coloured. A male specimen from Somaliland, in the British Museum, approaches my specimen in being pale buff on the breast (see Grant & Reid, Ibis, 1901, p. 656). A male from Asia

Minor, in the same collection, and another from Western Turkestan are pale on the breast. I saw two or three of these white-breasted birds in the Pa Dinar district (about 7500 ft.) in open country, but was only able to obtain one specimen. They were in company with normally coloured birds, and I think must be considered as examples of dichromatism.

This bird was very common throughout the wooded and bush-covered country from 2000 ft. upwards, nor was it uncommon in the treeless grassy districts, wherever there were a few bushes, and we saw a pair on the summit of the Gardan-i-Bijan (10,000 ft.). In its actions it is much like the Rufous Warbler; it flies down with quivering wings, singing delightfully, and then alighting "cocks" its tail and spreads it out. The song, which is of a most erotic character, is a jumble of fine notes mixed with others of a bubbling nature, as though the bird were too excited to sing properly. Both male and female sing on the wing as well as when perched. In April the males and females were continually chasing one another and singing as they flew. When engaged in courting the birds seemed quite regardless of any one's presence, but at ordinary times they were shy and kept to the thickest parts of the bushes. In the open country they were always difficult to approach.

86. *ERITHACUS CYANECULA* (Wolf); Sharpe, Ibis, 1886, pp. 482, 496.

? *Cyanecula wolfi* Brehm; Blanf. t. c. p. 169.

22. Ad. March 22nd, Bushire.

Dr. Blandford was somewhat doubtful of the occurrence of this Bluethroat in Persia, but Dr. Sharpe received a specimen from Mr. Palmer from Bushire (shot March 28th). I saw only the specimen obtained.

87. *CINCLUS AQUATICUS ALBICOLLIS* (Vieill.).

326. ♀ ad.; 327. ♂ juv. May 19th, Shir River (7000 ft.).

412. ♂ juv. June 6th, near Sadat (7250 ft.).

The only adult specimen is very much worn. The head is of a palish brown, and the back uniform dark slate-grey,

but I think that the dark edgings to the feathers have been worn off. The lower breast is pale rufous, and, except for the paleness of this colour, the specimen agrees very well with worn specimens from Southern Europe and Turkey. I have not been able to examine examples from Palestine, but Mr. Dresser describes them (Man. Pal. Birds, p. 26), under the name of *C. rufiventris* Hempr. & Ehr., as resembling *C. albicollis*, but with rufous brown on the abdomen, and with the brown of the upper parts extending down to the interseapular region without squamations. Western Persian birds may be the same, but my specimen is so worn that it is not possible to decide. The name *C. rufiventris*, by the way, is given by Hemprich and Ehrenberg without any description.

A few Dippers were seen on some of the streams in the country to the north-west of Shiraz at elevations of 7000 ft. and over. They were very shy and difficult to procure. On the Shir River I shot several which were swept down the stream into a narrow precipitous gorge before I could reach them, although I jumped hastily into the torrent after them.

The habits and note of these birds resembled those of *C. aquaticus*.

The specimens obtained by Dr. Blanford in Northern Persia seem to have belonged to *C. a. cashmiriensis* Gould.

88. **MONTICOLA SAXATILIS* (Linn.); Blanf. t. c. p. 156; Sharpe, Ibis, 1886, pp. 482, 496.

I saw a few Rock-Thrushes, which were very wild, in the rocky and barren Berm Firuz region (over 9000 ft.) on May 21st, and again at about the same altitude on the pass over Dinar. Dr. Blanford observed the bird only at high altitudes, but Mr. Palmer obtained one at Bushire on the coast on March 25th (Sharpe, t. c.).

89. *MONTICOLA CYANUS* Linn.; Blanf. t. c. p. 155; Sharpe, Ibis, 1886, p. 496.

15, 16, 34, 60. Ad.

No. 15 is absolutely without spots or bars.

I noticed the Blue Rock-Thrush only as far inland as Kamarij.

90. *Turdus merula syriacus* Hempr. & Ehr.

Turdus merula, var. *syriacus* Hempr. & Ehr. Symb. Phys. fol. bb (1833).

Turdus merula syriacus Hartert, Wander. Naturf. p. 307.

Turdus merula Linn. ; Blanf. t. c. p. 157.

Merula merula Sharpe, Ibis, 1891, p. 109.

236, 390. Ad.

Mr. Hartert has pointed out to me how clearly the Blackbirds can be separated by well-marked differences in the female birds. I have compared my specimens with the series at Tring and find that they agree with this form. The female has the bill yellow with a brown base. The breast of the bird is greyish brown and not rufous as in *T. merula*, while the feathers of the throat are pale grey, mesially streaked with blackish brown. The male is like that of *T. merula*.

Dr. Blanford remarked that the females and young of the Persian Blackbird were decidedly less rufous than European specimens.

Blackbirds were seen here and there throughout our journey at elevations of from 3000 ft. to 10,000 ft., while in a few places they were very plentiful. I found a good many old nests, made of shreds of bark, near Dasht-i-arjan (6700 ft) ; while near Basht (1000 ft.) the young were well able to fly on June 10th.

91. *Turdus musicus* Linn. ; Blanf. t. c. p. 156 ; Sharpe, Ibis, 1886, pp. 482 & 495.

2. ♀ ad. March 21st, Bushire.

This specimen is paler on the upper parts than any specimen in the British Museum or at Tring, and has no tawny colour on the breast or flanks. Other specimens from the Persian Gulf, however, are darker than my bird, but they are nevertheless decidedly pale. It would be interesting to know where these pale birds breed. There is no record of their doing so in Southern Persia, and all the specimens obtained there have been met with in winter or spring, but I think it possible that they do breed in the country, because my specimen had the ovaries considerably enlarged.

If the Song-Thrush is not a resident in Southern Persia, I can hardly imagine that a few winter months would bleach it, and must conclude that its breeding-places possess the same bleaching qualities.

92. *PYCNONOTUS LEUCOTIS* (Gould); Blanf. t. c. p. 218; Sharpe, Ibis, 1886, p. 483, 1891, p. 110.

1, 195. Ad.

My specimens are rather paler on the upper, and whiter on the under parts, than examples from Eastern Persia and India.

This Bulbul was common between Bushire and Shiraz, and I saw a few near Tol-i-safid, some way N.W. of Shiraz, but I did not notice it elsewhere. Its clear flute-like pipe is even sweeter than that of *P. arsinöë*, the only other species of the genus with which I am acquainted.

93. *MUSCICAPA ATRICAPILLA* Linn.; Blanf. t. c. p. 143; Sharpe, Ibis, 1886, p. 494, 1891, p. 110.

13. ♂ ad. March 21st, Bushire.

143. ♀ ad. April 9th, Kalah Mushir (6700 ft.).

The specimens agree with typical *M. atricapilla*. I only met with the two specimens noted above, and they were not breeding.

94. *MUSCICAPA GRISOLA* Linn.; Blanf. t. c. p. 143; Sharpe, Ibis, 1886, pp. 480 & 494, 1891, p. 110.

250, 273, 275, 294, 416. Ad.

Dr. Blanford says that the Spotted Flycatcher is a common bird throughout the Persian highlands, but I met with it only here and there at various altitudes. It was common in the gardens at Shiraz, but did not appear to have commenced breeding by the middle of May. A female shot on June 6th, near Sadat (6800 ft.), had fairly large eggs in the ovaries.

95. *HIRUNDO RUSTICA* Linn.; Blanf. t. c. p. 215; Sharpe, Ibis, 1886, pp. 485 & 497.

52. ♂ ad.

Common in the towns and villages. There were young in the nest at Daliki (about 400 ft.) on March 28th.

96. *HIRUNDO RUFULA* Temm. ; Blanf. t. c. p. 215 ; Sharpe, Ibis, 1886, p. 497.

32. ♂ ad.

The Red-rumped Swallow was locally distributed. Incomplete nests were seen at Daliki (about 400 ft.) on March 28th, at Kazran (2700 ft.) on April 2nd, and at Pul-i-mard (3800 ft.) on April 23rd. The bird seems to line its nest with feathers before the mud portion is finished.

97. *CHELIDON URBICA* Linn. ; Blanf. t. c. p. 216.

107, 174, 175. Ad.

The wings of these specimens are unusually short, as are those of one from Shiraz, in the British Museum. However, I find certain examples in the British Museum from various localities with equally short wings. Measurements of the wings of my specimens and some others are as follows:—

174. ♂.	101 mm.	♂. Shiraz.	100 mm.	♀. Brighton.	102 mm.
107. ♀.	{ 102 "	♂. Lebanon.	102 "	♂. "	111 "
175. ♀.		♀. Granada.	102 "	♂. Gilgit.	111 "

The House-Martin was common about some of the towns and villages, but was unevenly distributed. Great numbers were nesting at the Caravanserai at Mian Kotal (6000 ft.) at the beginning of April. The nests there hung in hundreds from the walls and were often joined together in clusters of six or more.

—98. *COTILE RIPARIA* (Linn.) ; Blanf. t. c. p. 216 ; Sharpe, Ibis, 1886, p. 485.

461, 462. Juv.

A few Sand-Martins were nesting in the steep gravelly bank of a river near Nurabad (about 3600 ft.), but these were the only individuals of this species that I saw.

99. *COTILE RUPESTRIS* (Scop.).

Cotyle (Ptyonoprogne) rupestris (Scop.) ; Blanf. t. c. p. 216. 332, 334, 335. Ad.

These specimens are slightly paler on the breast than is usual with examples from further west.

The Crag-Martin was seen only here and there in the gorges

and where the rocks were perpendicular. They were breeding in such a gorge at the Shir River (7000 ft.) on May 20th.

100. *COTILE OBSOLETA* Cab.

Cotyle (*Ptyonoprogne*) *obsoleta* Cab.; Blanf. t. c. p. 217.

75. ♀ ad.; 443. ♂ juv.

The Pale Crag-Martin seems rare in this part of Persia. I saw a few at Bushire and in the Kotal-i-Dokhter (about 4000 ft.), where they appeared to be breeding in the beginning of April, and also near Basht (4100 ft.).

101. *DENDROCOPUS SYRIACUS* (Hempr. & Ehr.).

Picus syriacus Hempr. & Ehr.; Blanf. t. c. p. 130.

77, 165, 204, 215, 377. Ad.; 352, 431. Juv.

From 2600 ft. upwards, wherever there were trees, this Woodpecker was to be found, often very plentifully. Nests contained young on April 20th at 3400 ft., and on May 29th at 6500 ft., while I saw some fledged young on May 18th at 6000 ft. As I have frequently noticed with *D. major* in England, this species often chooses a place in the trunk of a tree under a bough which has recently been broken off in which to bore its breeding-hole. I suppose that the wood soon becomes softened in such places by the rain. In notes and habits this bird is similar to *D. major*.

102. *DENDROCOPUS MEDIUS SANCTI-JOHAANNIS* (Blanf.).

Picus sancti-johannis Blanf.; Blanf. t. c. p. 133.

80, 81, 160, 313, 397. Ad.; 314, 315, 382, 398, 419. Juv.

The young bird differs from the adult in being much more dully coloured on the head and abdomen, and having the breast speckled with dark brown.

An infertile egg taken from a nest of young was of a dull white colour, and measured 240 × 180 mm.

This near ally of *D. medius* was found only in the oak-woods. I did not observe it below an altitude of 4000 ft., but it was met with as far north as we travelled, viz., about 31° N. lat. It was especially common where the wood was thick, and in some places outnumbered *D. syriacus*.

The bird has a call-note somewhat like the cry of a kitten, but its alarm-note is a reiterated "tack," much like that of

D. major. The young "squawk" in the breeding-hole like those of *D. syriacus* and *D. major*, but not so loudly. A hole examined on April 28th at an altitude of 6700 ft. contained four young about three days old and two infertile eggs.

Fledged young, as well as young in the nest, were seen at an altitude of 7000 ft. on May 18th.

103. *DENDROCOPUS MINOR* (Linn.).

381. ♂ ad. May 30th, near Sisakht (6500 ft.).

This specimen is more or less intermediate between typical *D. minor* and *D. danfordi* (Harg.). It is pale on the breast, whereas *D. danfordi* is almost always dark, but it has profuse striations on the flanks like that form. The branch from the black moustachial stripe, which in typical *D. danfordi* entirely encircles the face and joins the occiput, is in this specimen considerably broken. The bill of the bird is remarkably large, measuring 190 mm. as against 180 mm. in *D. minor* and 175 mm. in *D. danfordi*. Unfortunately I obtained only one specimen, so that it is impossible to say whether these peculiarities are individual or not.

Dr. Blanford did not include *D. minor* in the avifauna of Persia, although he thought it probable that the species was to be found in the Caspian provinces.

I was always searching for the Lesser Spotted Woodpecker, and carefully examined every young *D. sancti-johannis* with my binoculars in the hope of finding it, but I never saw or heard one.

The specimen above mentioned was brought to me by a Persian villager. Usually the Persians and the Iliyats only brought us the commonest things, but this was a notable exception.

104. *GECINUS VIRIDIS* (Linn.).

Gecinus viridis (Linn.); Blanf. t. c. p. 135.

395. Juv. June 1st, near Chinar (6600 ft.).

Unfortunately I obtained only one immature specimen of this bird. Dr. Blanford had one scarcely mature female from the same region, which he described as like *G. viridis*,

but much paler and greyer. The mature birds which I saw, but failed to procure, gave me the impression, even at some distance, of being very grey and unlike *G. viridis*. The young birds of *G. viridis* vary greatly in shades and intensity of coloration, but my specimen is remarkably grey on the mantle, which is only faintly coloured with green, while the under parts have no tinge of green, except perhaps at the vent, where there is a suggestion of that colour.

Green Woodpeckers were very rare in the oak-woods. I saw one or two at three places only (near Aliabad, Sisakht, and Chinar), where there were thick oak-woods at an altitude of between 6500 ft. and 7300 ft.

The note seemed to be exactly like that of *G. viridis*.

105. **CUCULUS CANORUS* Linn.; Blanf. t. c. p. 119; Sharpe, Ibis, 1886, pp. 489 & 498.

The Cuckoo was fairly common at all altitudes, and often in most barren places, from April 1st onwards.

106. *COCYSTES GLANDARIUS* (Linn.); Blanf. t. c. p. 120. 91, 288. Ad.; 401. Juv.

Spotted Cuckoos were met with here and there throughout the oak-woods. They were very common in a river-bed not far from Khan-i-Ziniium (near Shiraz). A number of Magpies were breeding in very thick thorn-trees at this place, and the Cuckoos were doubtless using the Magpies as foster-parents. The trees were so thick, however, that it was impossible to climb up to the nests without a great deal of cutting. Major O. B. St. John remarked upon this locality as a favourite one in certain seasons. In some years, he observed, "Spotted Cuckoos are very rare in Persia" (Blanf. l. c.).

107. *CAPRIMULGUS EUROPEUS UNWINI* Hume.

Caprimulgus europæus Linn.; Blanf. t. c. p. 127; Sharpe, Ibis, 1886, p. 487.

280, 432, 433, 434, 435. Ad.

This form is generally smaller and paler than *C. europæus*, and while both these characters are variable, the two together serve to distinguish the races, although rather

unsatisfactorily in regard to specimens from Persia, which sometimes approach the typical *C. europæus* very nearly.

Nightjars were fairly common about Shiraz early in May, and we saw and heard them occasionally in the oak-woods at elevations of between 4000 ft. and 7000 ft. At a camp near Basht (4100 ft.) they were common on June 10th, and were evidently breeding.

108. *CAPRIMULGUS ÆGYPTIUS* Licht.; Blanf. t. c. p. 128; Sharpe, Ibis, 1891, p. 100.

8. ♀ ad. March 21st, Bushire, Persian Gulf.

This specimen from Bushire is very ashy and not so buff on the upper parts as most African specimens. Of the two birds in the British Museum from Fao, one is sandy and the other ashy.

The ovaries of the bird were considerably developed.

109. *UPUVA EPOPS* Linn.; Blanf. t. c. p. 130; Sharpe, Ibis, 1886, p. 498, 1891, p. 110.

321. ♂ ad.

This specimen is rather pale-coloured on its mantle and breast. The Hoopoe was not common, but was fairly evenly distributed. A nest in a hole at the base of a wall at Shiraz contained young on May 10th.

110. *MEROPS APIASTER* Linn.; Blanf. t. c. p. 122; Sharpe, Ibis, 1886, pp. 487 & 498.

263. ♂ ad.

The Common Bee-eater was often seen in great numbers from the coast to an altitude of about 8000 ft. At Dasht-i-arjan (6700 ft.) we saw none until April 12th, when flock after flock passed over, flying northwards. I saw some boring their nesting-holes in a bank at Shiraz on May 6th.

111. *MEROPS PERSICUS* Pall.

Merops ægyptius Forsk.; Blanf. t. c. p. 123; Sharpe, Ibis, 1886, pp. 487 & 498.

451. ♀ ad.

This Bee-eater was rarely seen, and not above an altitude

of 3000 ft. There were a few at Bushire on March 21st, and at Kamarij (2700 ft.) on March 30th, and a good many near Tol-i-safid on June 13th. At the latter place the birds were flying about a river and resting upon high reeds in a swamp.

112. *MEROPS VIRIDIS* Linn.; Blanf. t. c. p. 124.

9. ♀ ad. March 21st, Bushire.

This specimen, which was the only one seen, is of the usual Indian form with blue chin and throat.

113. *CYPSELUS APUS PEKINENSIS* (Swinh.).

Cypselus apus (Linn.); Blanf. t. c. p. 129; Sharpe, Ibis, 1886, p. 498.

289, 413. Ad.

The paler colour of the forehead, wings, and tail of eastern examples of the Swift, although a slight character, is constant and serves to distinguish the two forms. Swifts were fairly common everywhere, and in some places were numerous, from the coast to an elevation of over 7000 ft.

114. *CYPSELUS MELBA* (Linn.).

Cypselus melba (Linn.); Blanf. t. c. p. 130.

414, 415, 458. Ad.

These specimens are rather paler than usual on the upper parts.

The Alpine Swift was very local, but in certain rocky valleys was quite numerous.

115. **ALCEDO ISPIDA* Linn.; Blanf. t. c. p. 121.

Kingfishers, apparently of this species, were seen on a river near Naksh-i-Bahram (3200 ft.), and at a tank near Shahpur at about the same elevation. I failed to procure a specimen.

116. *CERYLE RUDIS* (Linn.); Blanf. t. c. p. 122; Sharpe, Ibis, 1891, p. 111.

448. ♀ ad. June 12th, near Tol-i-safid (3200 ft.).

There are only a few spots at the base of the tail in this specimen, and the streaks on the flanks are few.

The Pied Kingfisher was met with rarely on a few of the streams up to an elevation of 3500 ft.

117. *HALCYON SMYRNENSIS (Linn.); Blanf. t. c. p. 121; Sharpe, Ibis, 1886, p. 488.

This richly-coloured Kingfisher I also failed to obtain, but I saw single birds several times in trees and reeds on the banks of streams, and took careful notes of their colouring by means of my binoculars. They were far too wild to approach. Major St. John observed this Kingfisher in winter at Dasht-i-arjan (6700 ft.), and I saw one at the same place in April.

118. CORACIAS GARRULA Linn.; Blanf. t. c. p. 125; Sharpe, Ibis, 1886, pp. 488, 489, 1891, p. 110.

234, 247, 404, 444. Ad.

The Roller seems to be a summer visitor to Persia. I noticed it at Bushire on March 21st, and after that date we met with a few here and there throughout our journey. Several pairs were breeding in the stone piers of a broken bridge at Pul-i-mard (3800 ft.) on April 23rd, but the holes in the masonry were too deep for me to reach the nests. I did not notice *C. indica*, which is resident on the southern coast according to Dr. Blanford.

119. ATHENE NOCTUA BACTRIANA Hutton.

Athene glaux (Sav.); Blanf. t. c. p. 117.

92, 131, 181, 269, 270, 396. Ad.

This, the palest form of the Little Owl, was fairly common, both in the woods and in the barren rocky country, but it was most abundant in the woods at a comparatively low elevation (between 4000 ft. and 6000 ft.). Although I did not see any young, I think that these birds had already finished breeding at the beginning of April. The bird's cat-like "meow" and its plaintive piping cry were to be heard in the day, but more frequently at nightfall. It often sits on the top of a tree, and will then see an intruder at some distance and fly away, but it will allow him when well hidden to come within a few yards without moving. I have seen it sitting on the telegraph-wires and on rocks in the full glare of the sun.

120. *Scops giu* Scop.; Blanf. t. c. p. 115; Sharpe, Ibis, 1886, pp. 477, 494.

119, 120, 376. Ad.

The Scops Owl is always difficult to hunt out of its hiding-place, and is therefore very seldom seen; while its monotonous note of a single piping whistle uttered at short intervals sounds to me so exactly like that of the Little Owl that I have no idea of its distribution over the country through which we travelled. I obtained a pair which frequented the telegraph rest-house at Dasht-i-arjan (6700 ft.); and near Sisakht (7000 ft.) on May 29th a boy brought me a female and three fresh eggs, which he said that he had obtained from a hole in a house.

121. *SYRNIUM ALUCO* (Linn.).

308. ♂ ad. May 17th, near Aliabad (7300 ft.).

This specimen is very much paler, both on the upper and under parts, than any specimen in the British Museum or at Tring. The feathers of the breast are also more narrowly marked mesially. The plumage is considerably abraded. It would be unwise to make a subspecific separation on the basis of one specimen, but should the Persian Tawny Owl be found to be constant in these peculiarities, I think that it certainly should be separated.

Near Kalah Mushir (6700 ft.) and near Sisakht (6500 ft.) I heard Owls hooting exactly like our Tawny Owl, and near Chinar (6600 ft.) I saw two Owls which appeared to be of this species. I was always on the look out for it, and examined hundreds of suitable holes in the trees in the hope of finding it nesting. The bird is evidently rare, is confined to the oak-woods, and probably to the highest altitudes at which the oak grows. The specimen obtained appears to have finished breeding.

122. **ASIO ACCIPITRINUS* (Pall.); Sharpe, Ibis, 1886, p. 477.

Otus brachyotus (Gmel.); Blanf. t. c. p. 116.

I saw an Owl, which I took to be of this species, on March 21st at Bushire.

123. *TINNUNCULUS ALAUDARIUS* (Gm.); Blanf. t. c. p. 105.
Cerchneis tinnunculus Sharpe, Ibis, 1886, p. 494, 1891,
p. 104.

304, 310, 331, 400. Ad.

The Kestrel was almost universally distributed and in many places was very common.

124. *TINNUNCULUS CENCHRIS* (Cuv.); Blanf. t. c. p. 106.

109, 110, 330, 402. Ad.

One of the males is quite unspotted on the breast.

The Lesser Kestrel was seen in many places where there were rocky cliffs. It was especially common in a gorge at Shir River near Ardakun (about 7000 ft.).

125. *FALCO SUBBUTEO* Linn.; Blanf. t. c. p. 105; Sharpe, Ibis, 1886, p. 477, 1891, p. 104.

305. ♀; 403. ♀ ad.

The band on the nape of these specimens is of a rich rufous.

There were a few Hobbies in the thickest parts of the oak-woods at high altitudes (above 6000 ft.). I saw one attack a Hooded Crow and a Black Kite one after the other and defeat both most valiantly.

126. *MILVUS MIGRANS* (Bodd.); Blanf. t. c. p. 114.

Milvus korschun Sharpe, Ibis, 1886, p. 476.

319. ♂ ad. May 18th, Aliabad (7300 ft.).

The Black Kite was the only species of Kite obtained. It was nowhere abundant, but a few were seen in most places. It was often in company with the Ravens and Vultures which gathered about the much frequented passes, and especially the steepest where dead animals were always to be found.

A nest with two fresh eggs was found on April 13th near Dasht-i-arjan (6700 ft.).

127. **GYPÆTUS BARBATUS* (Linn.); Blanf. t. c. p. 101.

Every here and there I used to see a Lämmergeyer sweeping in glorious flight over the highest and rockiest hills. Dr. Blanford did not observe it below 4000 ft., but one sailed over my head on March 30th near Kamarij (about

3000 ft.). This individual was the only one that ever came within shot of me, and at the time I was carrying a .410 bore.

128. *ASTUR BREVIPES* Severtz.

Astur (Micronisus) brevipes Severtz. ; Blanf. t. c. p. 109.

309. ♀ ad. May 17th, near Aliabad (7300 ft.).

417. ♂ juv. June 16th, near Sadat (7200 ft.).

In the young bird the brown mesial markings of the breast-feathers are at first drop-shaped, but by the abrasion of the feathers they become lance-shaped before the first moult takes place.

Dr. Blanford did not obtain this Hawk in Persia, but he presumed that a Sparrow-Hawk noted by Major St. John as a bird of passage there was *A. brevipes*.

The bird evidently breeds in this part of Persia, but must, I think, be rare. The female had the ovaries well developed, and the young bird was scarcely able to fly.

129. **CIRCUS ÆRUGINOSUS* Linn. ; Blanf. t. c. p. 110.

A pair of Marsh-Harriers were swooping at one another playfully in the marsh at Dasht-i-arjan on April 7th. The place was in every way suitable for them to breed.

130. **CIRCUS MACRURUS* (Gm.) ; Blanf. t. c. p. 110 ; Sharpe, Ibis, 1886, p. 476.

I saw a few Pallid Harriers in the plains up to 3000 ft.

131. **GYPS FULVUS* Gmel. ; Blanf. t. c. p. 99.

The Griffon was nowhere numerous, probably owing to the scarcity of carrion. The only places in which it was at all common were the "kotals," or steep ladder-like passes, on the road between Bushire and Shiraz. These passes are so steep, and so many thousand heavily laden animals are driven up and down them, that they provide a continual supply of carcasses for carrion-eaters.

The reason given by Dr. Blanford for large birds being so very wild in Persia still holds good. The Persians, and especially the Iliyats, use every large bird that comes in sight as a target for their rifles.

132. *NEOPHRON PERCNOPTERUS (Linn.); Blanf. t. c. p. 101.
The Egyptian Vulture was fairly evenly distributed, but was nowhere numerous.

133. *PHALACROCORAX CARBO (Linn.); Blanf. t. c. p. 298.
One or two Cormorants, apparently of this species, were seen on the Daliki River on March 28th.

134. *PHÆNICOPTERUS ROSEUS Pall.
Phænicopterus antiquorum Temm.; Blanf. t. c. p. 300.
A few Flamingos were seen at Bushire on March 18th.

135. *BRANTA RUFICOLLIS (Pall.).
Anser ruficollis Pall.; Blanf. t. c. p. 303.
A brightly coloured Goose is fairly common at Dasht-i-arjan. They are excessively wild, and everyone with a rifle shoots at them, but they are very rarely hit, I believe. I was told, however, that they had greatly decreased in numbers at this place.

I could not obtain a specimen, nor could Major St. John; but Dr. Blanford puts the bird down as of this species, and I think that he is correct. It has a loud trumpeting note.

+136. *ANAS BOSCAS Linn.; Blanf. t. c. p. 300.

137. *QUERQUEDULA CRECCA (Linn.); Blanf. t. c. p. 301.
There were a few Mallards and a good many Teal in the marsh at Dasht-i-arjan at the beginning of April, but these were the only Ducks of any kind that we saw.

138. *CICONIA ALBA Bechst.; Blanf. t. c. p. 297.

The "Haji," as the Persians call it, was migrating over Dasht-i-arjan (6700 ft.) on April 6th. Near Shiraz, on May 2nd, many had young standing up in the nests on the house-tops, while a number were feeding in the stubbles near Tol-i-safid (about 3500 ft.) on June 13th.

139. ARDETTA MINUTA (Linn.); Blanf. t. c. p. 296.

297. ♀ ad.

The only Little Bittern which we saw was on a marsh near Shiraz on May 3rd. The "shikari" with whom we were walking crept up to it as it was skulking through some rushes, and, throwing his hat at it, knocked it over and caught it.

It was a female, with the ovaries small, and it did not appear to be breeding.

140. GALLINAGO MAJOR (Gm.); Blanf. t. c. p. 282; Sharpe, Ibis, 1886, p. 492.

121. ♂ ad.

I shot one Great Snipe on April 7th in the marsh at Dasht-i-arjan (6700 ft.).

Dr. Blanford had no record of it for Southern Persia. Mr. Cumming obtained it in April at Fao (Sharpe, *l. c.*), and Dr. Scott writes that he shot one or two this winter (1903) in a marsh near Shiraz.

+141. GALLINAGO CÆLESTIS (Frenz.).

Gallinago scolopacinus Bp.; Blanf. t. c. p. 283.

122. ♂ ad.

There were a good many Snipe at Dasht-i-arjan (6700 ft.) on April 7th, and we saw a few on a marsh near Shiraz (5200 ft.) on May 3rd, but by that date most of the birds, which are common there in winter, had left.

+142. MACHETES PUGNAX (Linn.).

Tringa pugnax Linn.; Blanf. t. c. p. 284.

252. ♀ ad.

A remarkably tame Reeve was shot on April 26th on a grassy plateau (7000 ft.) near Dasht-i-arjan.

Dr. Blanford remarks that, according to Eichwald, this bird is found on the Caspian.

143. *TOTANUS CALIDRIS (Linn.); Blanf. t. c. p. 285; Sharpe, Ibis, 1886, p. 492.

I saw and heard Common Redshawks at Dasht-i-arjan (6700 ft.) on April 6th.

+144. TOTANUS OCHROPUS Linn.; Blanf. t. c. p. 285; Sharpe, Ibis, 1891, p. 114.

111. ♂ ad.

A male was shot at Dasht-i-arjan (6700 ft.) on April 6th.

145. TOTANUS HYPOLEUCUS (Linn.).

Tringoides hypoleucus (Linn.); Blanf. t. c. p. 285.

Totanus hypoleucus (Linn.); Sharpe, Ibis, 1891, p. 114.

225. ♂. April 21st, near Naksh-i-Bahram (3300 ft.).

359. ♀. May 25th, Pa Dinar (8000 ft.).

On the banks of the streams there were a few Common Sandpipers. I also saw a good many in the Pa Dinar district (7000 to 8000 ft.) at the end of May, and it seemed likely that the birds might be breeding there, but a male shot on May 25th had the testes small.

Mr. Cumming obtained two immature specimens at Fao on September 10th (Sharpe, *l. c.*).

Dr. Blanford observed it only in winter.

146. *NUMENIUS PHÆOPUS (Linn.); Blanf. t. c. p. 286; Sharpe, Ibis, 1886, p. 492.

+147. *NUMENIUS ARQUATA (Linn.); Blanf. t. c. p. 286; Sharpe, Ibis, 1886, p. 492.

A few seen at Bushire, March 18th.

+148. ÆGIALITIS DUBIA (Scop.); Sharpe, Ibis, 1886, p. 492, 1891, p. 113.

Ægialitis fluviatilis (Bechst.); Blanf. t. c. p. 279.

256. ♂. April 27th, Dasht-i-arjan (6700 ft.).

There were a few Little Ringed Plovers on most of the streams with shingly or sandy beds. Some seen in the Pa Dinar region at the end of May certainly had the appearance of breeding birds, and the male shot at Dasht-i-arjan had the testes considerably swollen.

Dr. Blanford saw a bird near Shiraz in June, and concluded that it "probably breeds on the plateau."

149. CHETTUSIA LEUCURA (Licht.).

Chettusia villotæi (Sav.); Blanf. t. c. p. 280.

Chettusia leucura (Licht.); Dresser, Ibis, 1902, p. 177, pl. vi. figs. 1 & 2 [eggs].

276. ♂; 277. ♂; 278. ♀. May 3rd, Shiraz (5200 ft.).

There were a good number of these Plovers nesting on the short grass on the borders of a marsh near Shiraz on May 3rd.

The eggs, which are much like those of the Lapwing, have already been figured in this journal by Mr. Dresser (*l. c.*). The nest he describes as a mere heap of dry herbage, but

one which I found was like that of a Lapwing, consisting of a little grass lining a "scoop" in the ground. The eggs were three in number, and measured 430×280 , 400×280 , and 410×280 mm. respectively.

The birds were very noisy, and appeared to have much the same actions and flight as the Lapwing.

+150. **HÆMATOPUS OSTRALEGUS* Linn.; Blanf. t. c. p. 281; Sharpe, Ibis, 1891, p. 114.

A few seen at Bushire, March 18th.

151. *LARUS CACHINNANS* Pallas.

Larus argentatus Blanf. (nec Gmel.) t. c. p. 290.

Larus leucophæus Licht.; Sharpe, Ibis, 1891, p. 115.

B. Ad. March 14th, Bandar Abbas, Persian Gulf.

Iris pale straw-coloured, granulated with black; bill greenish grey streaked with dark brown; legs and feet very pale creamy flesh-coloured.

Although this specimen has a dark mantle, the colouring of its soft parts do not altogether correspond with those of the Yellow-legged Herring-Gull.

152. *LARUS HEMPRICHI* (Bruch); Blanf. t. c. p. 292.

A. ♂ ad. March 12th, Maskat.

This Gull was common in the Persian Gulf in March.

153. *LARUS RIDIBUNDUS* Linn.; Blanf. t. c. p. 292.

115. ♂ ad. April 6th, Dasht-i-arjan (6700 ft.).

This specimen is in full summer plumage, and the brown head is of a paler shade than usual.

Dr. Blanford considered this Gull somewhat uncommon on the Baluchistan coast.

From April 6th to 13th I found a considerable flock in the marsh near Dasht-i-arjan (6700 ft.), some 100 miles inland, but the birds had left the place on my return there on April 28th.

154. *STERNA ANGLICA* Montagu; Sharpe, Ibis, 1886, p. 493, 1891, p. 116.

21. ♂ ad. March 22nd, Bushire.

The Gull-billed Tern was fairly common at Bushire,

March 20th–25th. Dr. Blanford did not include this species in the avifauna of Persia, but has mentioned that it was likely to occur there (*t. c.* p. 294).

155. *? *RALLUS AQUATICUS* Linn.; Blanf. *t. c.* p. 288.

While travelling on May 15th near Shul (about 7000 ft.) a Water-Rail, apparently of this species, rose from some rushes in an open grassy place. I winged the bird, but unfortunately failed to find it.

156. *COLUMBA PALUMBUS CASIOTIS* (Bp.).

Columba casiotis (Bp.); Blanf. *t. c.* p. 269.

312. ♂ ad. May 17th, near Aliabad (7000 ft.).

The tips of most of the feathers on the neck-patch of this specimen are white, and at a first glance the bird looks like *C. palumbus*. But on turning up these feathers they are found to be of the buff-colour characteristic of *C. p. casiotis*. Dr. Blanford's specimens obtained in June had the neck-patch buff; the feathers of my bird are much abraded, and this may be the cause of the loss of colour. Unfortunately I did not keep more than one skin, chiefly, I confess, because the bird looked like our Wood-Pigeon and was always much wanted for food. It was fairly common and breeding throughout the oak-woods. There were fresh eggs and young in a nest on June 3rd at 6000 ft.; fledged and fully-grown young on June 10th at 4000 ft. The note and general habits are the same as those of our bird.

157. *COLUMBA INTERMEDIA* Strickl.; Blanf. *t. c.* p. 268.

329. ♂ ad.

This specimen is pale blue-grey on the mantle and rump. We did not see many Rock-Pigeons, and they were always difficult to shoot, and when shot usually managed to fall down some precipitous place whence it was impossible to retrieve them. I am confident that I saw many birds with white rumps breeding in the same places as the grey-rumped birds. Is it possible that the grey-rumped bird is nothing more than an individual variation of true *C. livia*? Domestic Pigeons, even when half-wild, are often grey-rumped.

158. *TURTUR TURTUR ARENICOLA* Hartert, Nov. Zool. 1891, p. 42.

Turtur auritus Gray; Blanf. t. c. p. 270; Sharpe, Ibis, 1886, p. 489, 1891, p. 111.

260, 261, 391, 456. Ad.

My specimens agree exactly with the type (from Fao, Persian Gulf) of this subspecies in the Tring Museum. Compared with *T. turtur*, it is very much paler on the wings and back and much less vinous on the upper breast, while its wing does not measure more than 165 mm., and that of *T. turtur* is not less than 172 mm.

This Turtle-Dove was common in the oak-woods and in cultivated districts, but I did not notice it, as might be expected, in the treeless country nor above 8000 ft. It was plentiful up to 3000 ft. in the first week of April, but had not arrived at Dasht-i-arjan (6700 ft.) by April 15th, and I think that it must spend the winter on the plains near the coast.

A specimen obtained at Dasht-i-arjan is a partial albino.

159. **PTEROCLES ARENARIUS* (Pall.); Blanf. t. c. p. 271; Sharpe, Ibis, 1891, p. 111.

A few Black-breasted Sand-Grouse, presumably of this species, were seen on a sandy plain near Shiraz on May 14th, and between Borazjan and Shif on June 19th.

+160. *COTURNIX COMMUNIS* Bonn.

Coturnix communis Bonn.; Blanf. t. c. p. 278.

Coturnix coturnix (Linn.); Sharpe, Ibis, 1886, p. 489, 1891, p. 111; Ogilvie-Grant, Ann. & Mag. Nat. Hist. (6) x. pp. 167, 170, 171 (1892).

290, 291, 292, 293. ♀ ad. May 4th, Shiraz (5200 ft.).

My specimens are of the form described by Mr. Ogilvie-Grant as intermediate between *C. communis* and *C. capensis*.

I did not see or hear Quail until arriving at Shiraz (5200 ft.) at the beginning of May. They were common in the fields round that town, and I heard them calling in the fertile valley of Ardakun (7400 ft.) on May 20th. I did not notice the bird elsewhere. Dr. Scott, of Shiraz, tells me that

Quail are shot there in January. At Shiraz, an old Persian shikari shewed me an ingenious method of catching Quail. His call was fashioned out of a piece of wood fitted with a brass whistle, which was connected to a drum made of the skin from the head of a Mallard. By tapping twice on the drum, a soft whistle, like the note of the female Quail, is produced. The shikari walks along the corn-fields tapping his call and listening. Presently a male answers, and the shikari, by repeated calls, gradually locates the answering bird and draws nearer to it. When within fifty yards or so of the spot, he stops and spreads a large green net, which rests on the top of the corn or clover, and then lying down with the net between himself and the bird, he continues to make the call. The male rapidly approaches. When within a yard or two of the shikari, it suddenly catches sight of him and flies up into the net. The shikari jumps up excitedly, disentangles the Quail, and, after pulling out all its primaries, carefully puts it away alive into his bag. I have seen male Quail so fascinated by this call that not content to run they flew to it.

161. *FRANCOLINUS VULGARIS* Steph.; Blanf. t. c. p. 273; Sharpe, Ibis, 1891, p. 111.

226. ♂ ad. April 21st, near Naksh-i-Bahram (3400 ft.).

The Francolin or *Durraj*, as it is called in Persian, was common in the marshes near the coast and in the plains near Naksh-i-Bahram and Nurabad, where corn and grass abounded, but I saw it nowhere else. The harsh and frog-like note is unmistakable, so that, although the bird lies very close, its presence can be easily detected.

162. *AMMOPERDIX BONHAMI* (Fraser); Blanf. t. c. p. 274; Sharpe, Ibis, 1886, p. 498.

228. ♂ ad.; 229. ♀ ad. April 22nd, near Pul-i-mard (3800 ft.).

The delicately coloured Sec-see Partridge was very local in its distribution. It was found at various altitudes, but was numerous only in two or three localities, and I did

not notice it in the Dinar region. Rock-strewn hill-sides, whether overgrown with trees or not, seem to be its favourite resort. Its flight, as it swings round a rock or sweeps down a hill-side, is very perplexing to the gunner, especially when he is balancing himself on a toppling boulder. One bird quite puzzled me by disappearing suddenly and then, while I was searching for it, flying up with a whirr from the depths of a narrow crack in the rock.

163. *CACCABIS SAXATILIS CHUKAR* Gray.

Caccabis chukar Gray ; var., Blanford, t. c. p. 275.

Caccabis chukar Gray ; Sharpe, Ibis, 1886, p. 498.

118, 303, 320, 361, 368, 405. Ad. ; 392. Pull.

The Chukars from Western Persia are always exceedingly pale in coloration. The heads of some of my specimens are almost white, and the upper parts of all of them are of a pale ashy grey. A careful examination of the large series of these birds in the British Museum has resulted in a resolution to leave the matter alone so far as further division of the species is concerned. The great variation in the shades of colour of these birds is very puzzling. These are not due, I am sure, to individual peculiarities, for almost every district for some reason seems to produce a form with a slightly different coloration. Birds from Mesopotamia, Turkestan, and other countries are almost as pale as South-west Persian birds ; while those from Eastern Persia are dark, but not so dark as others from some parts of India ; then some are pinker, some greyer, some browner. The causes of these variations are not apparent ; for instance, one would hardly expect from the woods of Western Persia a paler bird than one from the desert-country of Eastern Persia. It would be interesting to make a thorough study of these variations in connexion with the nature of the localities, and especially, I think, with the prevailing colour of the ground from which each variety is derived.

The Chukar was the most widely distributed bird we saw. It was found at all altitudes and in all sorts of country, but I think that it was most numerous on the stony hill-sides,

whether they were treeless or studded with oak. This bird is, of course, almost invariably met with on the ground, but I have seen it perch in trees.

We found fresh eggs on April 25th at 7000 ft., young in down, with both old birds in attendance, at about the same altitude on June 1st, and young fully grown and in small coveys at 4000 ft. on June 15th.

XL.—*Field-notes on some of the Birds of Cyprus.*

By DOROTHY M. A. BATE.

DURING my stay in Cyprus, from May 1901 until November 1902, I was unfortunately unable to devote much time to observing or collecting the birds of the island. Consequently I can contribute very little to the information that we already possess from Dr. Guillemard's two interesting papers which appeared in 'The Ibis' (1888, p. 94, and 1889, p. 206), and Lord Lilford's "List of the Birds of Cyprus" (Ibis, 1889, p. 305). Besides these there is the list given by Drs. Unger and Kotschy in 'Die Insel Cypern' (Wien, 1865), and a paper on the ornithology of Cyprus by Herr Aug. Müller (J. f. O. 1878, p. 390).

On arriving at Larnaka, which is the chief port, the first glimpse of Cyprus, from an ornithologist's point of view, is distinctly discouraging, inasmuch as a large portion of the island consists of flat, or low hilly, country, parched up and almost destitute of vegetation for the greater part of the year. In early days the island was celebrated for its forests "which not only clothed the whole of its mountain-ranges, but covered the entire central plain with a dense mass, so that it was with difficulty that the land could be cleared for cultivation"*. At the present day this great central plain, or "Mesoreæ," stretching right across the island, which is about sixty miles broad from Morphou in the west to Famagusta in the east, is practically bare of vegetation after the harvest is over. The only exception is an occasional spot

* Encycl. Brit. vi. p. 747.